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EQUILIBRIUM NORMAL SHOCK AND SHOCK-TUBE
SOLUTIONS FOR HELIUM-HYDROGEN MIXTURES
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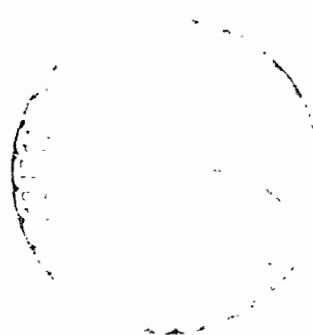
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MIXTURES WITH VELOCITIES TO 70 km/sec

MILLER and WILDER



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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PREFACE

Equilibrium thermodynamic and flow properties are presented in tabulated and graphical form for moving, standing, and reflected normal shock waves into helium-hydrogen mixtures representative of proposed outer planet atmospheres. The volumetric compositions of these mixtures are 0.35He-0.65H₂, 0.20He-0.80H₂, and 0.05He-0.95H₂. Properties include pressure, temperature, density, enthalpy, speed of sound, entropy, molecular-weight ratio, isentropic exponent, velocity, and species mole fractions. Incident (moving) shock velocities are varied from 4 to 70 km/sec for a range of initial pressure of 5 N/m² to 100 kN/m². The present results are applicable to shock-tube flows and to free-flight conditions for a blunt body at high velocities. A working chart illustrating idealized shock-tube performance with a 0.20He-0.80H₂ test gas and heated helium driver gas is also presented.

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CONTENTS

	Page
PREFACE	iii
SUMMARY	1
INTRODUCTION	1
SYMBOLS	2
CONVERSION FACTORS AND CONSTANTS	3
COMPUTATION PROCEDURE AND ANALYSIS	3
Shock-Tube Flow Regions	3
Conservation Relations	4
Thermodynamic Properties	5
Method of Solution	6
Accuracy	7
DISCUSSION OF TABLES AND CHARTS	8
Tables	9
Charts	13
THEORETICAL SHOCK-TUBE PERFORMANCE	13
CONCLUDING REMARKS	14
REFERENCES	15
TABLES	17
FIGURES	691

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SUMMARY

Equilibrium thermodynamic and flow properties are presented in tabulated and graphical form for moving, standing, and reflected normal shock waves into helium-hydrogen mixtures representative of proposed outer planet atmospheres. The volumetric compositions of these mixtures are 0.35He-0.65H₂, 0.20He-0.80H₂, and 0.05He-0.95H₂. Properties include pressure, temperature, density, enthalpy, speed of sound, entropy, molecular-weight ratio, isentropic exponent, velocity, and species mole fractions. Incident (moving) shock velocities are varied from 4 to 70 km/sec for a range of initial pressure of 5 N/m² to 100 kN/m². The present results are applicable to shock-tube flows and to free-flight conditions for a blunt body at high velocities. A working chart illustrating idealized shock-tube performance with a 0.20He-0.80H₂ test gas and heated helium driver gas is also presented.

INTRODUCTION

Interest in entry probes to Jupiter, Saturn, Uranus, and Neptune ushered in a number of proposed atmospheric models for these planets. These models consisted primarily of helium and hydrogen. (For example, see refs. 1 and 2.) Exploratory studies with helium-hydrogen mixtures have been undertaken in the arc-driven Langley 6-inch shock tube (ref. 3), where incident shock velocities from approximately 12 to 30 km/sec were generated in a 0.20He-0.80H₂ mixture. Such studies require a means for determining thermodynamic properties and flow velocity for incident, standing, and reflected shock waves in helium-hydrogen mixtures and a means for estimating shock-tube performance prior to a test with these mixtures. The wide range of flow conditions and very short test times impose stringent requirements on shock-tube instrumentation. In order to prepare facility instrumentation properly for a test, the investigator must have reasonable estimates of the magnitude of flow quantities to be measured.

The purposes of this report are threefold: (1) to present charts and tables for use in the determination of thermodynamic properties, flow velocity, and species mole fractions for incident (moving), standing, and reflected normal shocks in helium-hydrogen mixtures; (2) to provide a convenient means of determining post-normal-shock flow conditions for a vehicle at high velocities in a helium-hydrogen mixture; and (3) to provide reasonable estimates of shock-tube performance in a 0.20He-0.80H₂ mixture for an arc-heated helium driver gas.

Three mixtures, representing the maximum, approximate mean, and minimum atmospheric models proposed for Jupiter (ref. 1) and Saturn (ref. 2), were used for the present calculations. The volumetric compositions for these mixtures were 0.35He-0.65H₂, 0.20He-0.80H₂, and 0.05He-0.95H₂. Normal-shock conservation relations for an incident, standing, and reflected shock and the method of solution of these relations, as well as the procedure for determining shock-tube performance, are discussed briefly herein and in detail in reference 4.

SYMBOLS

a	speed of sound, m/sec
h	specific enthalpy, m ² /sec ² (J/kg)
p	pressure, N/m ²
R	universal gas constant, 8.31434 kJ/kmol-K
s	specific entropy, kJ/kg-K
sW ₀ /R	nondimensional specific entropy
T	temperature, K
U	velocity, m/sec
U _r	velocity of reflected shock, m/sec
U _s	velocity of incident shock, m/sec
W	molecular weight, kg/kmol
W ₀	molecular weight of undissociated gas mixture, kg/kmol
Z*	number of kmoles of dissociated gas mixture per number of kmoles of undissociated gas mixture, W ₀ /W
γ _E	isentropic exponent, $\left(\frac{\partial \log p}{\partial \log \rho} \right)_{sW_0/R}$
ρ	density, kg/m ³
2	

Subscripts:

- 1 state of quiescent test gas ahead of incident normal shock
- 2 state of test gas behind incident normal shock (see fig. 1)
- 2r state of test gas behind reflected normal shock into region ② (see fig. 1)
- 2s state of test gas behind standing normal shock in region ② (see fig. 1)
- 3 state of expanded driver gas (see fig. 1)
- 4 driver-gas conditions at time of diaphragm rupture

CONVERSION FACTORS AND CONSTANTS

Conversion factors between the International System of Units (SI) and U.S. Customary Units (ref. 5) for the quantities presented in tables I to III and figures 2 to 10 are

$$1 \text{ N/m}^2 = 9.8692 \times 10^{-6} \text{ atm} = 1.4504 \times 10^{-4} \text{ psi} = 2.0885 \times 10^{-2} \text{ lbf/ft}^2$$

$$1 \text{ kg/m}^3 = 6.2428 \times 10^{-2} \text{ lbm/ft}^3 = 1.9403 \times 10^{-3} \text{ slug/ft}^3$$

$$1 \text{ J/kg} = 1 \text{ m}^2/\text{sec}^2 = 10.764 \text{ ft}^2/\text{sec}^2 = 4.3021 \times 10^{-4} \text{ Btu/lbm}$$

$$1 \text{ m/sec} = 3.2808 \text{ ft/sec} = 2.2369 \text{ mph}$$

Physical constants appearing herein are

Mixture	W_0 , kg/kmol	h_1 , MJ/kg	a_1 , km/sec	$\gamma_{E,1}$	T_1 , K	Z_1^*
0.35He-0.65H ₂	2.711	2.842	1.160	1.463	300	1.0
0.20He-0.80H ₂	2.413	3.334	1.217	1.433	↓	↓
0.05He-0.95H ₂	2.115	3.964	1.288	1.406	↓	↓

COMPUTATION PROCEDURE AND ANALYSIS

Shock-Tube Flow Regions

The regions of interest for a shock tube are illustrated in figure 1. The quiescent driver gas at the time of diaphragm rupture is designated as region ④, and the quiescent

test gas is designated as region ① (fig. 1(a)). Upon rupture of the diaphragm, an incident shock wave propagates into region ① with velocity U_s . The flow conditions immediately behind this shock are denoted as region ② (fig. 1(b)). An expansion wave propagates into the driver gas; the region between the contact surface and the expansion wave is designated as region ③. For a blunt model positioned in the driven section of the shock tube, a standing shock wave is formed at the model, provided the flow in region ② is supersonic (fig. 1(c)). The flow conditions immediately behind this standing shock are designated as region ②s.

When the incident shock wave reaches the end wall of the shock tube, it is reflected back into region ② (fig. 1(d)). The gas behind the reflected shock wave is brought to rest, relative to the shock tube. Flow conditions behind this reflected shock wave, which is propagating upstream with a velocity U_r , are designated as region ②r.

Conservation Relations

For an incident normal shock wave moving through region ①, in a laboratory-fixed coordinate system, the conservation relations for mass, momentum, and energy are

$$\rho_1 U_s = \rho_2 (U_s - U_2) \quad (1a)$$

$$p_1 + \rho_1 U_s^2 = p_2 + \rho_2 (U_s - U_2)^2 \quad (1b)$$

$$h_1 + \frac{1}{2} U_s^2 = h_2 + \frac{1}{2} (U_s - U_2)^2 \quad (1c)$$

The conservation relations for a standing normal shock wave, where the conditions downstream of the incident shock wave (region ②) are the upstream conditions for this standing shock wave, are

$$\rho_2 U_2 = \rho_{2s} U_{2s} \quad (2a)$$

$$p_2 + \rho_2 U_2^2 = p_{2s} + \rho_{2s} U_{2s}^2 \quad (2b)$$

$$h_2 + \frac{1}{2} U_2^2 = h_{2s} + \frac{1}{2} U_{2s}^2 \quad (2c)$$

The conservation relations for a reflected normal shock wave, where the conditions in region ② are the upstream conditions for this reflected shock wave, are

$$\rho_2 (U_2 + U_r) = \rho_{2r} U_r \quad (3a)$$

$$p_2 + \rho_2(U_2 + U_r)^2 = p_{2r} + \rho_{2r}U_r^2 \quad (3b)$$

$$h_2 + \frac{1}{2}(U_2 + U_r)^2 = h_{2r} + \frac{1}{2}U_r^2 \quad (3c)$$

Thermodynamic Properties

The equation of state (that is, source of thermodynamic properties for real-gas mixtures) takes the form of the thermochemical equilibrium procedure of references 6 and 7. (The equation of state cannot be expressed in closed analytical form when chemical processes occur.) This procedure, which is based upon the Gibbs free-energy minimization method of reference 8, includes dissociation and first and second ionization. Basic assumptions are:

- (1) The mixture is composed of ideal gases (intermolecular force effects are neglected).
- (2) For diatomic species the rigid-rotor harmonic-oscillator model is used with vibrational-rotational corrections.
- (3) Only electronic levels with principal quantum number less than or equal to five are included.

For a given pressure and temperature, the free energies for individual species are computed from partition functions of statistical mechanics. The equilibrium composition is then obtained by minimization of the free energy. In the present study, iterations on species concentration (number of kmols of species i per mass of mixture) were continued until the absolute value of each concentration changed by less than 10^{-8} between successive iterations. This iterative criterion is referred to in reference 6 as the absolute criterion. A relative criterion was also employed to prevent termination of the iterations while a minor species was still changing by as much as 0.1 of its previous value. Once the equilibrium set of species concentrations are known, the mixture properties (ρ , h , s , a , Z^* , and γ_E) can be calculated.

In order to examine what effect the absolute criterion might have on the present results, a number of sample cases were run in which the absolute criterion was relaxed to 10^{-4} . These cases were for a 0.20He-0.80H₂ mixture, with initial pressure p_1 of 10 N/m² and 100 kN/m² and an incident shock velocity U_s ranging from 4 to 64 km/sec in increments of 1.2 km/sec. Comparison of these results with those obtained with an absolute criterion of 10^{-8} showed that the largest variations occurred in the second-order properties (a and γ_E). In no instance did these variations exceed 0.07 percent. The maximum variation in mole fractions was 0.4 percent. Hence, the absolute criterion of 10^{-8} employed in the present computations provides a high level of precision.

In reference 7, it is shown that calculations of thermodynamic properties of air, as obtained with the program of references 6 and 7, generally agreed with the more rigorous imperfect air results of references 9 and 10. For the temperature range 1500 K to 15 000 K and pressure range 0.7 N/m^2 to 0.7 MN/m^2 , first-order properties (ρ , h , s , and Z^*) agreed to within 1 percent and second-order properties agreed to within 5 percent (ref. 7). Since the same sort of difference between computational schemes could be expected for other atmospheres, the method of references 6 and 7 should give, for the present study, first-order properties to within 1 percent and second-order properties to within 5 percent over the range in which results were extensively checked ($T \leq 15\,000 \text{ K}$, $0.7 \text{ N/m}^2 \leq p \leq 0.7 \text{ MN/m}^2$). Thermodynamic properties are expected, in general, to be in better agreement than species concentrations (mole fractions).

Required inputs to the procedure of references 6 and 7 and an iterative-interpolation scheme enabling determination of thermodynamic properties from combination of h , p , sW_0/R , and ρ are discussed in reference 4. The species used in the present calculations for helium-hydrogen mixtures are

e^-	H
He	H^+
He^+	H_2
He^{++}	

Thermodynamic data for the helium-hydrogen species were obtained from reference 11, and a listing of the thermodynamic data is presented in reference 4.

Method of Solution

As mentioned previously, the upstream conditions for the standing and reflected shock waves are conditions in region ②. Hence, it is necessary to solve first for conditions behind the incident shock wave. The thermodynamic properties and gas composition (mole fractions) in region ① are assumed to be known, as is the incident shock velocity U_s . Hence, quantities appearing on the left-hand side of the conservation relations for an incident normal shock (eqs. (1a) to (1c)) are known. The method of successive approximations (iteration on ρ_2 , ref. 4) is used to solve equations (1a) to (1c) for ρ_2 , p_2 , h_2 , and U_2 , in conjunction with the equation of state $\rho_2 = \rho_2(p_2, h_2)$. (Thermodynamic properties corresponding to p_2 and h_2 are obtained from the equation of state.) With the conditions determined in region ②, the corresponding conditions in regions ②s and ②r are obtained in a similar manner, that is, by an iterative procedure on density ρ_{2s} and ρ_{2r} , respectively.

In predicting shock-tube performance, the helium driver-gas pressure p_4 and temperature T_4 are assumed to be known, in conjunction with p_1 and T_1 . Thermodynamic properties in region ④ are determined from imperfect-gas relations based on the virial form of the equation of state (ref. 4). The unsteady expansion, which occurs upon rupture of the diaphragm, is assumed to be isentropic. An array of thermodynamic properties, including p_3 , is generated in the expansion (region ③) and the corresponding velocity U_3 is obtained numerically from the differential equation for one-dimensional unsteady expansion. By varying U_s over a range, an array of U_2 and p_2 is also generated. The solution is found by requiring that p_3 equal p_2 and U_3 equal U_2 ; that is, the solution is the intersection of the U_2, p_2 and U_3, p_3 curves (ref. 4).

Accuracy

The iterative procedure for solving the conservation relations (eqs. (1)) was continued until successive values of density (ρ_2 , ρ_{2s} , and ρ_{2r}) were within 0.5 percent. To examine the effect of this iterative tolerance, the tolerance on density was decreased to 0.25, 0.1, and 0.05 percent and increased to 1 percent. This variation was performed for a 0.20He-0.80H₂ mixture at two values of p_1 (10 N/m² and 100 kN/m²) and U_s from 4 to 64 km/sec. Increasing the tolerance from 0.5 percent to 1 percent had essentially no effect (less than 0.07 percent) on thermodynamic conditions in region ② and resulted in a variation of less than 0.6 percent for thermodynamic conditions and less than 0.9 percent for velocity in regions ②s and ②r. Variations in thermodynamic conditions and velocities in regions ②, ②s, and ②r, resulting from a decrease in iterative tolerance from 0.5 to 0.05 percent, were less than 0.4 percent. This relatively small increase in accuracy with decrease in tolerance from 0.5 percent was not warranted, in view of the corresponding large increase in computer time required for the smaller tolerance.

Comparison of results from the present computational procedure and those of similar studies was performed. Since results for helium-hydrogen mixtures for the present range of conditions were not found in the open literature, the program (ref. 4) used to generate the results herein was also exercised with a 16-species CO₂ model (e⁻, O, O⁺, O⁺⁺, O⁻, O₂, O₂⁺, O₂⁻, C, C⁺, C⁺⁺, C⁻, C₂, CO, CO⁺, and CO₂). Incident, standing, and reflected shock solutions were compared to the graphical results of reference 12 (which are based on a 10-species CO₂ model including second ionization) for an incident shock velocity range of 1 to 16 km/sec and initial pressure of 100 N/m². With the exception of a few points (3 out of 105), the thermodynamic properties of reference 12 for regions ②, ②s, and ②r (as read from charts) were within 2 percent of the results obtained with the program of reference 4. In no case did disagreement exceed 4 percent. For this range in U_s , the maximum values of T_2 and T_{2s} were approximately 17 000 K and 25 000 K, respectively.

A similar comparison was performed by exercising the program of reference 4 with a 26-species air model and comparing these data with the tabulated results of reference 13. The volumetric composition of air was the same for both studies (0.7808 N₂, 0.2095 O₂, and 0.0097 Ar), as was the initial pressure (6.67 N/m²). The incident shock velocity was varied from 17.1 to 34 km/sec. This range of U_s corresponds to a range in T_2 of 15 000 K to 42 000 K (ref. 13). Agreement between the studies, for quantities p_2 , T_2 , ρ_2 , h_2 , and U_2 , was within 1 percent for U_s to 30 km/sec, corresponding to a T_2 of 34 000 K. Above this U_s , the agreement in these quantities diminishes rapidly, being within 5 percent at a U_s of 32 km/sec and within 20 percent at a U_s of 34 km/sec (maximum U_s examined). This rapid diminishing of agreement is attributed to the fact that first and second ionization were included in the present air calculations, whereas third ionization was included in the more rigorous calculations of reference 13.

The present computational procedure yields thermodynamic properties and velocities, for CO₂ and air, within 2 percent of results of similar studies (refs. 12 and 13) for temperatures less than 25 000 K to 30 000 K. For the more simple helium-hydrogen mixture model, the uncertainty in thermodynamic properties and velocities is not expected to exceed that observed for the CO₂ and air comparisons. As stated previously, the thermodynamic properties are more accurate than the mole fractions. For example, the comparison of CO₂ results showed that thermodynamic properties agreed to within 2 percent, whereas the agreement for individual species mole fractions was within 10 to 12 percent in the U_s range (T_2 range) where the mole fraction was near its maximum value. The accuracy in mole fractions is expected to be at least within the limits of reference 13, these being less than 1, 5, and 20 percent at temperatures less than 10 000, 15 000 K, and 25 000 K, respectively.

DISCUSSION OF TABLES AND CHARTS

Before discussing the present tables and charts, it should be noted that flow properties behind the normal portion of the bow shock wave of a hypervelocity entry body are equivalent to the properties behind a moving shock in a shock tube. In free-flight, the free-stream conditions and flight velocity correspond to the initial conditions in region ① and the shock-wave velocity, respectively, whereas the conditions behind the bow shock correspond to conditions in region ②. In the present study, an initial temperature T_1 of 300 K was used for all calculations. A method permitting use of a range of ambient temperatures is discussed in reference 12, and should prove useful in determining free-flight conditions using the present tables and charts for an incident normal shock wave.

Tables

The solutions for incident (moving), standing, and reflected normal shocks are presented in tables I to III. The volumetric composition (mole fraction) of the helium-hydrogen mixture is 35 percent helium and 65 percent hydrogen ($0.35\text{He}-0.65\text{H}_2$) in table I, 20 percent helium and 80 percent hydrogen ($0.20\text{He}-0.80\text{H}_2$) in table II, and 5 percent helium and 95 percent hydrogen ($0.05\text{He}-0.95\text{H}_2$) in table III. These tabulated computer results are arranged in groups of constant pressure in region ① (P_1) and the incident shock velocity (U_1) is varied within the group. In tables I to III, p_1 is varied from 5 N/m^2 to 100 kN/m^2 and U_s is varied from 4 to 30 km/sec in increments of 1 km/sec and from 30 to 70 km/sec in increments of 2 km/sec.

For each p_1 , a complete list of calculated thermodynamic properties (p , T , ρ , h , a , sW_0/R , Z^* , and γ_E), flow velocity (U), and species volumetric composition is given for the three shock-tube regions under consideration. The rows in the upper portion of each tabulation, for a given p_1 and U_s , are identified by letters (FORTRAN symbols), the designations of which, in terms of the symbols defined, are given in the following table:

FORTRAN symbol	Moving shock	Standing shock	Reflected shock
P	p_2/p_1	p_{2s}/p_1	p_{2r}/p_1
T	T_2/T_1	T_{2s}/T_1	T_{2r}/T_1
RHO	ρ_2/ρ_1	ρ_{2s}/ρ_1	ρ_{2r}/ρ_1
H	h_2/h_1	h_{2s}/h_1	h_{2r}/h_1
A	a_2/a_1	a_{2s}/a_1	a_{2r}/a_1
S	s_2/s_1	s_{2s}/s_1	s_{2r}/s_1
Z	Z_2^*/Z_1^*	Z_{2s}^*/Z_1^*	Z_{2r}^*/Z_1^*
GAME	$\gamma_{E,2}/\gamma_{E,1}$	$\gamma_{E,2s}/\gamma_{E,1}$	$\gamma_{E,2r}/\gamma_{E,1}$
U	U_2/a_1	U_{2s}/a_1	U_r/a_1

The lower portion of each tabulation illustrates the species composition for moving, standing, and reflected shock regions. Rows are identified by the species symbol.

The conditions in region ① are used to nondimensionalize calculated properties in regions ②, ②s, and ②r. The temperature in region ① T_1 is 300 K for all cases in tables I to III. Corresponding thermodynamic properties for the three helium-hydrogen mixtures in region ①, in SI Units (see section on Symbols), are given in the following tables.

INITIAL CONDITIONS AHEAD OF INCIDENT

SHOCK IN 0.35He-0.65H₂

$T_1 = 300 \text{ K}$ $h_1 = 2.842 \times 10^6 \text{ J/kg}$ $a_1 = 1.160 \times 10^3 \text{ m/sec}$ $Z_1^* = 1.0$ $\gamma_{E,1} = 1.463$		
$p_1, \text{ N/m}^2$	$\rho_1, \text{ kg/m}^3$	$\frac{s_1 W_0}{R}$
5	5.435×10^{-6}	26.09
10	1.087×10^{-5}	25.40
20	2.174×10^{-5}	24.71
50	5.435×10^{-5}	23.79
100	1.087×10^{-4}	23.10
200	2.174×10^{-4}	22.40
500	5.435×10^{-4}	21.49
1 000	1.087×10^{-3}	20.79
2 000	2.174×10^{-3}	20.10
5 000	5.435×10^{-3}	19.18
10 000	1.087×10^{-2}	18.49
20 000	2.174×10^{-2}	17.80
50 000	5.435×10^{-2}	16.88
100 000	1.087×10^{-1}	16.19

INITIAL CONDITIONS AHEAD OF INCIDENT
SHOCK IN 0.20He-0.80H₂

$T_1 = 300 \text{ K}$ $h_1 = 3.334 \times 10^6 \text{ J/kg}$ $a_1 = 1.217 \times 10^3 \text{ m/sec}$ $Z_1^* = 1.0$ $\gamma_{E,1} = 1.433$		
$p_1, \text{ N/m}^2$	$\rho_1, \text{ kg/m}^3$	$\frac{s_1 W_0}{R}$
5	4.838×10^{-6}	26.03
10	9.675×10^{-6}	25.34
20	1.935×10^{-5}	24.64
50	4.838×10^{-5}	23.73
100	9.675×10^{-5}	23.03
200	1.935×10^{-4}	22.34
500	4.838×10^{-4}	21.42
1 000	9.675×10^{-4}	20.73
2 000	1.935×10^{-3}	20.04
5 000	4.838×10^{-3}	19.12
10 000	9.675×10^{-3}	18.43
20 000	1.935×10^{-2}	17.73
50 000	4.838×10^{-2}	16.82
100 000	9.675×10^{-2}	16.13

INITIAL CONDITIONS AHEAD OF INCIDENT

SHOCK IN 0.05He-0.95H₂

$T_1 = 300 \text{ K}$ $h_1 = 3.964 \times 10^6 \text{ J/kg}$ $a_1 = 1.288 \times 10^3 \text{ m/sec}$ $Z_1^* = 1.0$ $\gamma_{E,1} = 1.406$		
$p_1, \text{ N/m}^2$	$\rho_1, \text{ kg/m}^3$	$\frac{s_1 W_0}{R}$
5	4.240×10^{-6}	25.81
10	8.480×10^{-6}	25.11
20	1.696×10^{-5}	24.42
50	4.240×10^{-5}	23.50
100	8.480×10^{-5}	22.81
200	1.696×10^{-4}	22.12
500	4.240×10^{-4}	21.20
1 000	8.480×10^{-4}	20.51
2 000	1.696×10^{-3}	19.82
5 000	4.240×10^{-3}	18.90
10 000	8.480×10^{-3}	18.21
20 000	1.696×10^{-2}	17.51
50 000	4.240×10^{-2}	16.60
100 000	8.480×10^{-2}	15.90

It is recommended in reference 7 that pressures should be restricted to less than 10 MN/m^2 and temperatures restricted to less than $15\,000 \text{ K}$ in order to insure accurate calculations of equilibrium compositions. This recommended upper limit on pressure is to minimize imperfect-gas (intermolecular force) effects. Temperatures considered must be such that only negligible contributions are realized from coulomb interactions and from electronic energy levels past the fifth electron shell. These considerations are not accounted for in the equilibrium program of references 6 and 7. For temperatures below $15\,000 \text{ K}$ or so, the latter consideration should be negligible. Comparisons made in a previous section entitled "Accuracy" showed that equilibrium CO_2 and air thermodynamic properties, as generated by using the method of references 6 and 7, are in good agreement (within 2 percent) with CO_2 and air calculations (refs. 12 and 13) for temperatures to $25\,000 \text{ K}$. Now, in the present results of tables I to III, no upper limitations on pressure and temperature are imposed; hence, values of pressure exceeding 10 MN/m^2 and of temperature exceeding $25\,000 \text{ K}$ are presented for the three shock-tube regions of interest. The user of these tables is cautioned to exercise discretion in employing the present results at pressures exceeding 10 MN/m^2 and temperatures exceeding $25\,000 \text{ K}$.

Charts

Working charts for the helium-hydrogen mixtures (corresponding to the results of tables I to III) are shown in figures 2 to 10. In these figures, the nondimensionalized thermodynamic properties and flow velocity for regions ②, ②s, and ②r are plotted as a function of incident shock velocity U_s for various quiescent test gas pressures. For each property in each region, the incident-shock-velocity scale is 0 to 32 km/sec and 30 to 62 km/sec , and is 0 to 40 km/sec for the standing (except in fig. 9) and reflected shocks. This division of the U_s scale is to enhance the readability of these charts. The figures were generated by machine and linear line segments were used to connect adjacent data points.

Unlike tables I to III, maximum pressure and temperature limitations were imposed on the results of figures 2 to 10, these being $p \leq 10 \text{ MN/m}^2$ and $T \leq 25\,000 \text{ K}$; calculated quantities above these limitations are not plotted. Again, the properties in region ① presented previously must be used to obtain the desired value of the thermodynamic property or flow velocity from the ratio presented.

THEORETICAL SHOCK-TUBE PERFORMANCE

Before a study is performed in a shock tube, it is essential that the theoretical performance be ascertained for the gas being tested. The wide range of flow conditions and very short test times (generally, a few microseconds to several milliseconds) impose stringent requirements on shock-tube instrumentation. Thus, in preparing shock-tube

instrumentation for a test, it is necessary that the physical quantities to be measured be known to within reasonable limits.

Results from the procedure for determining shock-tube performance for a 0.20He-0.80H₂ mixture test gas are shown in figure 11 for heated helium driver gas. In figure 11, the ratio of driver pressure in region ④ to quiescent test-gas pressure in region ① is shown as a function of incident shock velocity for various driver-gas temperatures T_4 . With p_4 , T_4 , and p_1 known, a theoretical value of U_s may be obtained from figure 11. (Some discrepancy between real physical conditions and conditions calculated by using a simple shock-tube theory is expected, with this discrepancy increasing with decreasing p_1 due principally to the "leaky-piston" effect (ref. 14).) Corresponding thermodynamic properties and flow velocity in regions ②, ②s, and ②r may be obtained from figures 5 to 7, or from table II. Variation in p_4/p_1 is obtained by varying p_1 . The range of T_4 is 4000 K to 16 000 K and p_4 is equal to 68.95 MN/m². At the maximum T_4 of 16 000 K and p_4 of 68.95 MN/m², ionization of the helium driver gas is essentially negligible (ref. 15), and the results of reference 4 are applicable.

CONCLUDING REMARKS

Equilibrium thermodynamic and flow properties are presented in tabulated and graphical form for moving, standing, and reflected normal shock waves into helium-hydrogen mixtures representative of proposed outer planet atmospheres. The volumetric compositions of these mixtures are 0.35He-0.65H₂, 0.20He-0.80H₂, and 0.05He-0.95H₂. Properties include pressure, temperature, density, enthalpy, speed of sound, entropy, molecular-weight ratio, isentropic exponent, velocity, and species mole fractions. Incident (moving) shock velocities are varied from 4 to 70 km/sec for a range of initial pressure of 5 N/m² to 100 kN/m². The present results are applicable to shock-tube flows and to free-flight conditions for a blunt body at high velocities. A working chart illustrating idealized shock-tube performance with a 0.20He-0.80H₂ test gas and heated helium driver gas is also presented.

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The user is cautioned about using these tables at pressures exceeding 10 MN/m² and temperatures exceeding 25 000 K.

	Page
Table I. - Nondimensional Thermodynamic Properties and Flow Velocity for Incident (moving), Standing, and Reflected Normal Shocks in a 0.35He-0.65H ₂ Mixture	18
Table II. - Nondimensional Thermodynamic Properties and Flow Velocity for Incident (moving), Standing, and Reflected Normal Shocks in a 0.20He-0.80H ₂ Mixture	242
Table III. - Nondimensional Thermodynamic Properties and Flow Velocity for Incident (moving), Standing, and Reflected Normal Shocks in a 0.05He-0.95H ₂ Mixture	466

Table 1.- Nondimensional Thermodynamic Properties and Flow Velocity for Incident (moving), Standing, and Reflected Normal Shocks in a 0.35He-0.65H₂ Mixture

[User cautioned about using table at pressures exceeding
10 MN/m² and temperatures exceeding 25 000 K]

$$p_1 = 5 \text{ N/m}^2$$

p ₁ = 5.00E+00 N/SC-M, US1 = 4.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3947E+01	2.8737E+01	7.2120E+01
T	3.5541E+00	4.4737E+00	5.2510E+00
ρ	3.0203E+00	4.4746E+00	1.1226E+01
μ	3.4327E+00	4.4133E+00	4.8589E+00
ε	1.8796E+00	2.0003E+00	2.3815E+00
S	1.0524E+00	1.0527E+00	1.0527E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.8770E-01	9.7975E-01	8.9495E-01
U	2.4703E+00	1.5599E+00	1.3490E+00
SPECIES			
MOLE FRACTIONS			
He	0.6500E+00	1.6427E-29	6.2001E-18
H	0.3500E+00	3.5500E-01	3.4500E-01
He+	3.9498E-06	3.7792E-04	1.5725E-03
H+	0.	0.	0.
He++	0.	0.	0.
H++	1.0747E-07	2.0122E-06	5.3377E-03
H2	8.1743E-20	8.1743E-20	6.2817E-18
H2+	6.5000E-01	6.4998E-01	6.4943E-01

p ₁ = 5.00E+00 N/SC-M, US1 = 7.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5302E+01	2.0573E+02	3.2271E+02
T	7.7748E+00	8.8703E+00	7.4229E+00
ρ	5.0074E+00	2.1237E+01	1.0144E+01
μ	9.2809E+00	1.8895E+01	1.8247E+01
ε	2.4555E+00	2.7355E+00	2.8848E+00
S	1.1298E+00	1.1298E+00	1.1298E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	7.9150E-01	7.7843E-01	7.7815E-01
U	5.7289E+00	1.4140E+00	1.2506E+00
SPECIES			
MOLE FRACTIONS			
He	0.6500E+00	2.2454E-17	1.8181E-11
H	3.4190E-01	3.2124E-01	3.0932E-01
He+	1.0423E-07	1.2730E-01	1.0889E-00
H+	0.	0.	0.
He++	0.	1.4433E-01	2.3815E-01
H++	4.9788E-15	2.7654E-12	1.8191E-11
H2	6.4998E-01	3.1443E-01	6.4950E-01

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P1 = 5.00E+00 N/SO-M, US1 = 8.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.203E+01	5.820E+01	1.2280E+02
T	4.9830E+00	4.5224E+00	7.7246E+00
PHN	4.4207E+00	6.8843E+00	1.5451E+01
M	5.1732E+00	7.1540E+00	9.9147E+00
A	2.1971E+00	2.3955E+00	2.5194E+00
S	1.0790E+00	1.0825E+00	1.0990E+00
Z	1.0001E+00	1.0045E+00	1.0275E+00
GAME	9.5427E-01	8.6809E-01	7.9895E-01
U	5.3351E+00	1.6584E+00	1.3357E+00

SPECIES	MOLE FRACTIONS
E-	1.4944E-13
HC	2.3084E-01
HF+	9.1787E-29
HF++	0.
H	1.0338E-01
M+	1.0044E-13
M2	5.0944E-01

P1 = 5.00E+00 N/SO-M, US1 = 9.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.877E+01	5.278E+02	7.4057E+02
T	8.517E+00	1.042E+01	1.0945E+01
PHN	8.647E+00	4.197E+01	5.3345E+01
M	1.5058E+01	2.5544E+01	3.0247E+01
A	2.4882E+00	2.1677E+00	2.2799E+00
S	1.1915E+00	1.2390E+00	1.2731E+00
Z	1.0084E+00	1.0238E+00	1.0325E+00
GAME	7.7308E-01	7.8201E-01	7.8713E-01
U	6.8202E+00	1.3705E+00	1.3785E+00

SPECIES	MOLE FRACTIONS
E-	1.6074E-12
HC	2.387E-01
HF+	4.817E-29
HF++	0.
H	1.7014E-01
M+	1.0074E-12
M2	5.0710E-01

P1 = 5.00E+00 N/SO-M, US1 = 5.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.203E+01	5.820E+01	1.2280E+02
T	4.9830E+00	4.5224E+00	7.7246E+00
PHN	4.4207E+00	6.8843E+00	1.5451E+01
M	5.1732E+00	7.1540E+00	9.9147E+00
A	2.1971E+00	2.3955E+00	2.5194E+00
S	1.0790E+00	1.0825E+00	1.0990E+00
Z	1.0001E+00	1.0045E+00	1.0275E+00
GAME	9.5427E-01	8.6809E-01	7.9895E-01
U	5.3351E+00	1.6584E+00	1.3357E+00

SPECIES	MOLE FRACTIONS
E-	4.4128E-24
HC	1.5731E-17
HF+	2.4867E-01
HF++	4.875E-29
H	0.
M+	2.0613E-04
M2	8.123E-20
	4.4240E-01

P1 = 5.00E+00 N/SO-M, US1 = 4.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.203E+01	1.1184E+02	1.9607E+02
T	4.4320E+00	7.8830E+00	8.4200E+00
RHO	4.0082E+00	1.3599E+01	2.1213E+01
M	7.0798E+00	1.0595E+01	1.3431E+01
A	2.3403E+00	2.421E+00	2.6866E+00
S	1.1087E+00	1.1130E+00	1.1339E+00
Z	1.0050E+00	1.0040E+00	1.0072E+00
GAME	8.4199E-01	7.9135E-01	7.8086E-01
U	4.1171E+00	1.5000E+00	1.2747E+00

SPECIES	MOLE FRACTIONS
E-	1.4611E-17
HC	5.5141E-14
HF+	2.3187E-01
HF++	4.8738E-29
H	0.
M+	4.9411E-02
M2	5.011E-16
	5.9276E-01

Table 1. - Continued

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SQ-M, USL = 1.00E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.702E+02	1.802E+03	7.549E+03
T	1.016E+01	1.510E+01	2.297E+01
RHO	1.265E+01	7.349E+01	6.831E+01
M	3.054E+01	5.501E+01	6.771E+01
A	3.237E+00	4.808E+00	6.466E+00
S	1.352E+00	1.460E+00	1.510E+00
Z	1.324E+00	1.624E+00	1.650E+00
GAME	7.790E-01	9.428E-01	1.103E+00
U	1.032E+01	1.777E+00	2.346E+00
SPECIES			
	MUE FRACTIONS		
C-	2.913E-10	8.399E-07	4.521E-04
HC	2.642E-01	2.156E-01	2.121E-01
HE+	1.927E-27	2.330E-18	1.998E-11
HE++	0.	2.376E-49	6.770E-44
H	4.897E-01	7.482E-01	7.866E-01
He	2.713E-10	8.399E-07	4.521E-04
H2	2.469E-01	1.621E-02	3.483E-04

P1 = 5.00E+00 N/SQ-M, USL = 1.00E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.838E+01	7.835E+02	1.079E+03
T	8.945E+00	1.111E+01	1.178E+01
RHO	4.594E+00	5.307E+01	6.528E+01
M	1.840E+01	3.206E+01	3.738E+01
A	2.814E+00	3.414E+00	3.632E+00
S	1.227E+00	1.291E+00	1.379E+00
Z	1.146E+00	1.329E+00	1.404E+00
GAME	7.720E-01	7.890E-01	7.979E-01
U	7.721E+00	1.396E+00	1.329E+00
SPECIES			
	MUE FRACTIONS		
C-	7.068E-12	1.379E-09	5.201E-09
HC	5.074E-01	2.633E-01	2.693E-01
HE+	1.767E-21	2.647E-26	9.237E-24
HE++	0.	0.	2.843E-48
H	2.646E-01	4.552E-01	5.781E-01
He	7.068E-12	1.379E-09	5.201E-09
H2	5.600E-01	2.646E-01	1.759E-01

PI = 5.00E+00 M/SQ-M, USI = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.202E+02	1.083E+03	1.470E+03
T	9.350E+00	1.194E+01	1.284E+01
RHD	1.071E+01	6.347E+01	7.560E+01
H	2.210E+01	3.910E+01	4.537E+01
A	2.945E+00	3.690E+00	3.995E+00
S	1.265E+00	1.346E+00	1.389E+00
Z	1.200E+00	1.429E+00	1.514E+00
GAME	7.729E-01	8.090E-01	8.290E-01
U	8.595E+00	1.451E+00	1.414E+00

SPECIES	MOLE FRACTIONS
F	2.700E-11
MC	2.917E-01
ME	6.874E-01
MF	0.000E-00
M	2.327E-01
M	7.700E-11
M	3.700E-01

PI = 5.00E+00 M/SQ-M, USI = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.462E+02	1.430E+03	1.945E+03
T	9.755E+00	1.301E+01	1.503E+01
RHD	1.174E+01	7.167E+01	8.000E+01
H	2.615E+01	4.678E+01	5.463E+01
A	3.086E+00	4.061E+00	4.753E+00
S	1.308E+00	1.404E+00	1.452E+00
Z	1.259E+00	1.533E+00	1.619E+00
GAME	7.752E-01	8.273E-01	8.290E-01
U	9.461E+00	1.550E+00	1.625E+00

SPECIES	MOLE FRACTIONS
F	9.545E-11
MC	7.797E-01
ME	1.300E-09
MF	0.000E-00
M	2.117E-01
M	4.955E-01
M	4.587E-01
M	3.161E-01

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PI = 5.00E+00 M/SQ-M, USI = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.982E+02	2.132E+03	3.291E+03
T	1.058E+01	2.031E+01	3.054E+01
RHD	1.343E+01	6.364E+01	6.468E+01
H	3.529E+01	6.351E+01	6.030E+01
A	3.403E+00	6.120E+00	6.906E+00
S	1.398E+00	1.507E+00	1.558E+00
Z	1.394E+00	1.649E+00	1.666E+00
GAME	7.847E-01	1.118E+00	9.374E-01
U	1.117E+01	2.358E+00	2.925E+00

SPECIES	MOLE FRACTIONS
F	8.524E-11
MC	2.009E-01
ME	2.041E-01
MF	0.000E-00
M	5.657E-01
M	8.524E-11
M	1.847E-01

PI = 5.00E+00 M/SQ-M, USI = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.281E+02	2.446E+03	3.967E+03
T	1.108E+01	2.636E+01	3.482E+01
RHD	1.402E+01	5.611E+01	6.707E+01
H	3.380E+01	7.238E+01	9.256E+01
A	3.595E+00	6.714E+00	7.166E+00
S	1.446E+00	1.544E+00	1.592E+00
Z	1.464E+00	1.654E+00	1.699E+00
GAME	7.941E-01	1.034E+00	8.680E-01
U	1.201E+01	3.001E+00	3.174E+00

SPECIES	MOLE FRACTIONS
F	2.673E-09
MC	2.382E-01
ME	2.114E-01
MF	0.000E-00
M	1.548E-01
M	7.847E-01
M	2.382E-01
M	1.124E-01

P1 = 5.00E+00 N/SQ-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9770E+02	2.0000E+00	4.0483E+03
T	1.2805E+00	2.0000E+00	2.0000E+00
BM	1.4000E+01	2.0000E+01	7.0000E+01
M	6.1000E+01	0.2000E+01	1.1725E+02
A	4.2000E+00	7.1000E+00	7.1000E+00
S	2.0000E+00	1.0000E+00	1.0000E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GMF	0.0000E+00	0.0000E+00	0.0000E+00
U	1.0000E+01	1.0000E+00	2.0000E+01

SPECIES	MIXE FRACTIONS
F-	0.0374E-08
HF	2.0000E-07
MF	2.0000E-01
MF+	0.0000E-01
M	1.6779E-28
M+	7.0000E-01
M+	0.0000E-01
M+	2.0000E-01
M+	7.0000E-01
M+	2.0000E-01

P1 = 5.00E+00 N/SQ-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2461E+02	2.0000E+00	4.0000E+03
T	1.0000E+01	2.0000E+01	4.0000E+01
BM	1.0000E+01	4.0000E+01	4.0000E+01
M	0.0000E+01	1.0000E+01	1.0000E+01
A	0.0000E+01	1.0000E+01	1.0000E+01
S	0.0000E+01	1.0000E+01	1.0000E+01
Z	0.0000E+01	1.0000E+01	1.0000E+01
GMF	0.0000E+01	0.0000E+01	0.0000E+01
U	1.0000E+01	1.0000E+01	1.0000E+01

SPECIES	MIXE FRACTIONS
F-	0.0000E-07
HF	2.0000E-01
MF	2.0000E-01
MF+	2.0000E-01
M	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01

P1 = 5.00E+00 N/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0000E+02	2.0000E+00	4.0000E+03
T	2.0000E+01	2.0000E+01	4.0000E+01
BM	2.0000E+01	4.0000E+01	4.0000E+01
M	7.0000E+01	1.0000E+01	1.0000E+01
A	4.0000E+00	7.0000E+00	7.0000E+00
S	1.0000E+00	1.0000E+00	1.0000E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GMF	0.0000E+00	0.0000E+00	0.0000E+00
U	1.0000E+01	1.0000E+00	2.0000E+01

SPECIES	MIXE FRACTIONS
F-	0.0000E-02
HF	2.0000E-01
MF	2.0000E-01
MF+	2.0000E-01
M	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01

P1 = 5.00E+00 N/SQ-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2000E+02	2.0000E+00	4.0000E+03
T	2.0000E+01	2.0000E+01	4.0000E+01
BM	2.0000E+01	4.0000E+01	4.0000E+01
M	7.0000E+01	1.0000E+01	1.0000E+01
A	4.0000E+00	7.0000E+00	7.0000E+00
S	1.0000E+00	1.0000E+00	1.0000E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GMF	0.0000E+00	0.0000E+00	0.0000E+00
U	1.0000E+01	1.0000E+00	2.0000E+01

SPECIES	MIXE FRACTIONS
F-	0.0000E-02
HF	2.0000E-01
MF	2.0000E-01
MF+	2.0000E-01
M	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01
M+	2.0000E-01

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Table I. - Continued

$$P_1 = 5 \text{ N/m}^2$$

D1 = 5.00E+00 N/SQ-M, US1 = 2.20E+04 M/SEC				D1 = 5.00E+00 N/SQ-M, US1 = 2.20E+04 M/SEC			

P1 = 5.00E+00 N/SQ-M, US1 = 2.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.139E+02	3.851E+03	5.506E+03
T	2.230E+01	4.454E+01	4.832E+01
RHO	9.256E+00	4.367E+01	4.698E+01
M	9.297E+01	1.617E+02	1.969E+02
A	6.900E+00	8.438E+00	9.162E+00
S	1.725E+00	1.800E+00	1.856E+00
Z	1.71E+00	1.979E+00	2.110E+00
GAME	8.328E-01	8.189E-01	8.229E-01
U	1.768E+01	3.749E+00	3.575E+00

SPECIES	MOLE FRACTIONS	
F-	3.988E-02	1.668E-01
HF	2.036E-01	1.767E-01
HF+	4.035E-07	8.127E-05
HE++	6.143E-29	2.244E-20
H	7.165E-01	4.900E-01
H+	3.488E-02	1.654E-01
H2	5.228E-05	3.672E-06

P1 = 5.00E+00 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.611E+02	4.322E+03	4.250E+03
T	3.282E+01	4.613E+01	4.691E+01
RHO	9.480E+00	4.601E+01	4.729E+01
M	1.012E+02	1.788E+02	2.143E+02
A	6.970E+00	8.766E+00	9.483E+00
S	1.740E+00	1.831E+00	1.890E+00
Z	1.749E+00	2.040E+00	2.179E+00
GAME	8.209E-01	8.200E-01	8.257E-01
U	1.850E+01	3.812E+00	3.558E+00

SPECIES	MOLE FRACTIONS	
F-	5.493E-02	1.915E-01
HF	2.000E-01	1.713E-01
HF+	1.072E-06	1.952E-04
HE++	2.10E-27	3.869E-19
H	5.850E-01	4.454E-01
H+	5.692E-02	1.913E-01
H2	4.000E-05	2.757E-06

P1 = 5.00E+00 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.624E+02	4.619E+03	7.762E+03
T	2.43E+01	4.530E+01	4.242E+01
RHO	1.001E+01	5.094E+01	4.244E+01
M	1.187E+02	2.113E+02	2.510E+02
A	7.321E+00	9.392E+00	1.017E+01
S	1.784E+00	1.893E+00	1.9E+00
Z	1.910E+00	2.170E+00	2.351E+00
GAME	8.124E-01	8.262E-01	8.324E-01
U	2.017E+01	3.545E+00	3.550E+00

SPECIES	MOLE FRACTIONS	
F-	9.322E-02	2.390E-01
HF	1.923E-01	1.684E-01
HF+	4.601E-05	3.666E-06
HE++	4.203E-28	1.414E-17
H	4.210E-01	3.592E-01
H+	9.231E-02	2.395E-01
H2	2.598E-06	1.709E-06

P1 = 5.00E+00 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.164E+02	6.081E+02	8.617E+03
T	3.745E+01	5.091E+01	5.528E+01
RHO	1.029E+01	5.234E+01	6.487E+01
M	1.280E+02	2.286E+02	2.717E+02
A	7.692E+00	9.710E+00	1.052E+01
S	1.821E+00	1.925E+00	1.990E+00
Z	1.858E+00	2.223E+00	2.402E+00
GAME	8.079E-01	8.270E-01	8.362E-01
U	2.109E+01	4.054E+00	3.967E+00

SPECIES	MOLE FRACTIONS	
F-	1.120E-01	2.571E-01
HF	1.882E-01	1.557E-01
HF+	7.901E-06	5.779E-06
HE++	2.844E-24	7.730E-17
H	5.875E-01	3.179E-01
H+	1.120E-01	2.425E-01
H2	3.146E-06	1.310E-06

Table I. - Continued

$$p_1 = 5 \text{ N/m}^2$$

$p_1 = 5.00E+00 \text{ N/SQ-M, USI} = 2.00E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.72E6E+02	6.7529E+03	9.51E2E+02
T	3.8497E+01	5.25E4E+01	5.72E5E+01
PMO	1.0570E+01	5.5E7E+01	6.7120E+01
M	1.3748E+02	2.46E7E+02	2.9294E+02
A	7.6789E+00	1.0039E+01	1.0927E+01
S	1.84E7E+00	1.9E70E+00	2.0255E+00
Z	1.8986E+00	2.3094E+00	2.4812E+02
GAME	8.767E-01	8.3030E-01	8.4041E-01
U	2.1948E+01	4.1518E+00	4.0811E+01
SPECIES			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.2091E-01	2.85E9E-01	2.3E00E-01
HE	1.9424E-01	1.50E4E-01	1.2833E-01
HE+	1.2067E-05	9.0094E-04	2.7327E-03
MF++	2.2204E-23	3.9401E-14	2.2974E-14
M	5.5381E-01	2.7819E-01	1.9147E-01
M+	1.3051E-01	2.8448E-01	2.3227E-01
M2	1.78E7E-06	9.82E7E-07	4.7491E-07

$p_1 = 5.00E+00 \text{ N/SQ-M, USI} = 3.20E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.018E+03	9.8072E+02	1.3778E+04
T	4.2287E+01	5.9860E+01	6.4E01E+01
PMO	1.1592E+01	4.3023E+01	7.4255E+01
M	1.7980E+02	3.2E08E+02	3.9E71E+02
A	8.4215E+00	1.1470E+01	1.2E30E+01
S	1.0480E+00	2.0876E+00	2.1E51E+00
Z	2.0748E+00	2.5956E+00	2.7865E+00
GAME	8.0764E-01	8.4E39E-01	8.4734E-01
U	2.5109E+01	4.6357E+00	4.6E539E+00
SPECIES			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.0E00E-01	3.6E20E-01	4.078E-01
HE	1.5844E-01	1.2930E-01	1.0788E-01
HE+	4.6676E-06	5.2492E-03	1.7730E-02
MF++	9.3447E-21	2.2714E-13	2.1337E-11
M	4.2054E-01	1.4002E-01	7.6427E-02
M+	2.0043E-01	3.4004E-01	3.0012E-01
M2	8.5793E-07	2.2334E-07	6.5476E-08

P1 = 5.00E+00 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.3080E+02	7.4640E+03	1.0513E+04
T	3.9488E+01	5.4251E+01	5.9236E+01
RHO	1.0841E+01	5.7776E+01	6.9229E+01
M	1.4769E+02	2.9529E+02	3.7485E+02
A	7.8606E+00	1.0380E+01	1.1324E+01
S	1.8707E+00	1.9894E+00	2.0604E+00
Z	1.9407E+00	2.3813E+00	2.5892E+00
GAME	8.0627E-01	8.3395E-01	8.4441E-01
U	2.2687E+01	6.2580E+00	4.2121E+00

SPECIES	MOLE FRACTIONS	
F-	1.4979E-01	3.0711E-01
HF	1.8033E-01	1.4558E-01
HF+	2.0546E-05	1.3947E-03
H	1.1943E-22	1.9492E-13
H+	5.2017E-01	2.4021E-01
H2	1.4976E-01	3.0571E-01
	1.4908E-06	7.1648E-07

P1 = 5.00E+00 N/SQ-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9115E+02	8.2159E+03	1.1554E+04
T	4.0437E+01	5.6022E+01	6.1586E+01
RHO	1.1109E+01	5.9761E+01	7.1139E+01
M	1.5804E+02	2.8459E+02	3.3763E+02
A	8.0428E+00	1.0733E+01	1.1732E+01
S	1.8958E+00	2.0219E+00	2.0955E+00
Z	1.9840E+00	2.4540E+00	2.6371E+00
GAME	8.0635E-01	8.3789E-01	8.4747E-01
U	2.2527E+01	4.3743E+00	4.3535E+00

SPECIES	MOLE FRACTIONS	
F-	1.6833E-01	3.2763E-01
HF	1.7438E-01	1.4046E-01
HF+	3.1081E-05	2.1847E-03
H	5.5658E-22	9.5076E-13
H+	4.8696E-01	2.0427E-01
H2	1.6830E-01	3.2547E-01
	1.2474E-06	5.0851E-07

P1 = 5.00E+00 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1531E+03	1.1523E+04	1.4197E+04
T	4.4091E+01	5.4183E+01	7.1718E+01
RHO	1.3025E+01	4.5528E+01	7.7214E+01
M	2.0295E+02	3.6814E+02	4.3654E+02
A	8.8147E+00	1.2211E+01	1.3308E+01
S	2.0014E+00	2.1573E+00	2.2646E+00
Z	2.1748E+00	2.7799E+00	2.9261E+00
GAME	8.1020E-01	8.4797E-01	8.4449E-01
U	2.6846E+01	4.5314E+00	4.9547E+00

SPECIES	MOLE FRACTIONS	
F-	2.4172E-01	3.9778E-01
HF	1.6408E-01	1.1608E-01
HF+	1.3330E-04	1.2652E-02
H	1.1644E-19	5.4448E-12
H+	3.5454E-01	8.9382E-02
H2	2.5118E-01	3.5512E-01
	5.7423E-07	8.4046E-08

P1 = 5.00E+00 N/SQ-M, US1 = 3.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2961E+03	1.3343E+04	1.8772E+04
T	4.5011E+01	4.9831E+01	7.7219E+01
RHO	1.2792E+01	4.7622E+01	7.9505E+01
M	2.2750E+02	4.1349E+02	4.9128E+02
A	9.2255E+00	1.2914E+01	1.4200E+01
S	2.0567E+00	2.3187E+00	2.3099E+00
Z	2.2780E+00	2.8596E+00	3.0539E+00
GAME	8.1384E-01	8.4428E-01	8.4297E-01
U	2.8523E+01	5.2338E+00	5.2424E+00

SPECIES	MOLE FRACTIONS	
F-	2.7543E-01	4.2250E-01
HF	1.8279E-01	3.6499E-02
HF+	2.7268E-01	4.1332E-02
H	1.3711E-19	5.8545E-09
H+	2.9525E-01	5.5279E-02
H2	2.7522E-01	3.5774E-01
	3.7109E-07	5.9740E-08

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table 1. - Continued

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/50-M, US1= 3.80E+04 M/SEC				P1 = 5.00E+00 N/50-M, US1= 4.07E+04 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	MOLE FRACTIONS			STANDING SHOCK	MOLE FRACTIONS	
P	1.4449E+01	4.832E-01	2.122E+04	P	1.9641E+01	4.9571E-01	3.1298E+04
T	4.7804E+01	6.8922E-02	8.4634E+01	T	4.6530E+01	4.3375E-02	1.4599E+02
PHO	1.2688E+01	4.8100E-02	8.0086E+01	PHO	1.3747E+01	1.0245E-01	4.4200E+01
M	2.534E+02	1.2227E-09	4.011E+02	M	3.3088E+02	4.1787E+02	7.7740E+02
A	9.662E+00	3.645E-02	1.5508E+01	A	1.1197E+01	1.8254E+01	2.1178E+01
S	2.1117E+00	3.645E-02	2.3758E+00	S	2.3285E+00	2.6701E+00	2.5120E+00
Z	2.5849E+00	4.0022E-01	3.1759E+00	Z	2.7182E+00	3.2722E+00	3.3278E+00
GAME	8.1871E-01	1.0720E-08	8.9480E-01	GAME	8.4134E-01	1.0356E+00	9.2318E-01
U	3.0149E+01	1.0720E-08	5.6756E+00	U	3.6016E+01	7.1592E+00	8.9013E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
F-	3.0833E-01	4.4832E-01	4.8045E-01	F-	3.9207E-01	4.9571E-01	5.0418E-01
HF	1.4427E-01	6.8922E-02	3.4548E-02	HF	1.2434E-01	4.3375E-02	1.111E-04
HF+	4.9424E-04	4.8100E-02	8.558E-02	HF+	4.4074E-02	1.0245E-01	9.6084E-02
HF++	1.3770E-17	1.2227E-09	9.9847E-08	HF++	7.8357E-18	4.9571E-04	8.9384E-02
M	2.3712E-01	3.645E-02	1.6441E-02	M	8.9454E-02	4.1578E-02	4.1452E-04
M+	3.3783E-01	4.0022E-01	3.9490E-01	M+	3.8857E-01	3.9313E-01	3.9023E-01
M2	2.2465E-07	1.0720E-08	1.7952E-09	M2	2.5009E-04	9.7958E-11	6.2391E-12

P1 = 4.00E+00 N/SD-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6054E+03	1.7178E+04	7.4786E+04
T	4.9846E+01	7.9053E+01	9.8639E+01
RHO	1.2972E+01	6.9959E+01	7.6262E+01
M	2.8078E+02	4.1215E+02	6.177E+02
A	1.0172E+01	1.4555E+02	1.8211E+01
S	2.1683E+00	2.3494E+00	2.4477E+00
Z	2.4963E+00	3.1061E+00	3.2683E+00
GAME	8.2505E-01	8.6277E-01	1.0788E+00
U	7.1802E+01	5.8671E+00	6.4692E+00

SPECIES	MOLE FRACTIONS
F-	3.3901E-01
HE	1.3924E-01
ME+	9.6746E-04
MF+	1.4897E-16
H	1.8274E-01
M+	3.3804E-01
M2	1.2414E-07

P1 = 4.00E+00 N/SD-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7712E+03	1.9028E+04	2.8094E+04
T	9.2140E+01	8.4259E+01	1.2711E+02
RHO	1.3025E+01	4.8779E+01	4.8103E+01
M	3.0949E+02	9.4449E+02	4.9914E+02
A	1.0644E+01	1.5017E+01	2.1110E+01
S	2.2244E+00	2.4109E+00	2.5173E+00
Z	2.5083E+00	3.2069E+00	3.2973E+00
GAME	8.3307E-01	9.1467E-01	1.0802E+00
U	3.3419E+01	5.2295E+00	7.5074E+00

SPECIES	MOLE FRACTIONS
F-	3.6739E-01
HE	1.3220E-01
ME+	1.9897E-03
MF+	1.8414E-14
H	1.3301E-01
M+	3.6540E-01
M2	4.0719E-08

P1 = 4.00E+00 N/SD-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1261E+03	2.1799E+04	3.4078E+04
T	4.7957E+01	1.1548E+02	1.4769E+02
RHO	1.2993E+01	5.7214E+01	4.3948E+01
M	3.7104E+02	4.7180E+02	8.4900E+02
A	1.1743E+01	2.0495E+01	2.1548E+01
S	2.3922E+00	2.8224E+00	2.4179E+00
Z	2.8709E+00	3.2934E+00	3.3789E+00
GAME	8.4746E-01	1.1024E+00	8.7205E-01
U	3.6596E+01	8.3169E+00	9.3300E+00

SPECIES	MOLE FRACTIONS
F-	4.1508E-01
HE	1.1281E-01
ME+	1.0259E-02
MF+	4.2348E-13
H	4.6018E-02
M+	1.3183E-02
M2	3.5378E-01

P1 = 4.00E+00 N/SD-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3119E+03	2.3052E+04	3.4871E+04
T	6.1700E+01	1.2344E+02	1.4700E+02
RHO	1.2942E+01	4.2181E+01	4.4225E+01
M	4.0889E+02	7.2777E+02	9.2308E+02
A	1.2216E+01	2.1076E+01	2.2733E+01
S	2.3052E+00	2.6488E+00	2.6407E+00
Z	2.9138E+00	3.3047E+00	3.4377E+00
GAME	8.3588E-01	1.0040E+00	8.6410E-01
U	3.8177E+01	9.4703E+00	3.4788E+00

SPECIES	MOLE FRACTIONS
F-	4.3374E-01
HE	9.8155E-02
ME+	2.1941E-02
MF+	8.7785E-12
H	3.4344E-02
M+	4.1178E-01
M2	2.9144E-09

Table I. - Continued

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SG-M, US1 = 5.50E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1381E+03	3.0303E+04	4.9124E+04
T	7.7275E+01	1.7266E+02	2.2847E+02
OHF	1.2544E+01	5.0194E+01	5.9093E+01
M	5.4977E+02	9.8720E+02	1.2683E+03
A	1.5104E+01	2.2910E+01	2.9921E+01
S	2.6114E+00	2.7313E+00	2.8333E+00
Z	3.2349E+00	3.4955E+00	3.6285E+00
GAWE	9.1190E-01	8.6940E-01	1.0770E+00
U	4.6617E+01	1.1104E+01	1.1974E+01
SPECIES			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F-	4.9726E-01	5.2811E-01	5.4652E-01
HF	1.4604E-02	2.6712E-03	1.0527E-04
HF+	9.3721E-02	4.3464E-02	3.1337E-03
M	4.9274E-08	6.6464E-02	9.3090E-02
M+	4.8809E-03	1.5131E-04	5.7780E-05
M2	2.9474E-01	3.7166E-01	3.5723E-01
M2	3.8524E-11	6.0845E-14	9.3472E-14

P1 = 5.00E+00 N/SG-M, US1 = 5.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5000E+03	2.4797E+04	3.9936E+04
T	4.4597E+01	1.4586E+02	1.7624E+02
OHF	1.2042E+01	5.0574E+01	6.4761E+01
M	4.3917E+02	7.8814E+02	9.9576E+02
A	1.5249E+01	2.1024E+01	2.3208E+01
S	2.6544E+00	2.6104E+00	2.7245E+00
Z	3.3395E+00	3.3395E+00	3.4988E+00
GAWE	8.3044E-01	9.0168E-01	8.7240E-01
U	3.9743E+01	1.0166E+01	9.9366E+00
SPECIES			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F-	4.5012E-01	5.0578E-01	5.2827E-01
HF	1.7911E-02	1.1140E-04	3.1488E-05
HF+	2.8821E-02	9.2724E-02	7.5041E-02
M	6.6989E-11	1.1996E-02	6.6989E-02
M+	2.1944E-02	3.1687E-04	1.7797E-04
M2	4.1129E-01	3.6907E-01	3.7141E-01
M2	1.0834E-09	2.9014E-13	1.0720E-13

P1 = 6.00E+00 N/SQ-M, US1 = 6.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3499E+02	3.0673E+04	5.0234E+04
T	8.0296E+01	1.8054E+02	2.6094E+02
PHQ	1.1846E+01	4.7715E+01	6.2784E+01
M	9.8858E+02	1.0541E+03	1.3723E+03
A	1.7079E+01	2.3930E+01	3.2724E+01
S	2.6597E+00	2.7742E+00	2.8823E+00
Z	3.2810E+00	2.5487E+00	3.6471E+00
GAMF	1.0321E+00	6.9182E-01	1.1252E+00
U	4.5771E+01	1.1364E+01	1.3246E+01

SPECIES	MOLE FRACTIONS
F-	4.9711E-01
HF	3.7822E-02
HF+	1.0289E-02
HF++	1.0489E-06
H	2.0017E-03
H+	3.9422E-01
H2	6.1244E-12
	5.3504E-01
	1.4349E-05
	2.8410E-02
	7.0204E-02
	1.1840E-04
	3.6422E-01
	3.6911E-14
	5.4759E-01
	1.7027E-07
	7.6330E-04
	9.6703E-02
	3.1863E-05
	2.6442E-01
	2.4246E-15

P1 = 6.00E+00 N/SQ-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5524E+03	2.5739E+04	4.9266E+04
T	9.0687E+01	1.9042E+02	2.9523E+02
PHQ	1.0874E+01	4.2474E+01	6.4730E+01
M	6.2889E+02	1.1181E+03	1.4743E+03
A	1.9110E+01	2.5320E+01	3.4070E+01
S	2.7048E+00	2.8108E+00	2.9289E+00
Z	3.2558E+00	3.5900E+00	3.6491E+00
GAMF	1.1127E+00	9.3009E-01	1.1357E+00
U	4.6922E+01	1.1707E+01	1.4561E+01

SPECIES	MOLE FRACTIONS
F-	4.9037E-01
HF	1.5877E-04
HF+	1.0590E-01
HF++	8.1641E-02
H	6.5000E-04
H+	3.9279E-01
H2	3.9489E-13
	5.4077E-01
	6.2483E-04
	1.5764E-02
	2.7984E-04
	9.5684E-02
	1.8192E-05
	3.5622E-01
	6.6180E-14

P1 = 6.00E+00 N/SQ-M, US1 = 6.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7132E+03	2.4844E+04	4.3220E+04
T	6.7974E+01	1.5447E+02	1.0753E+02
PHQ	1.2948E+01	9.0446E+01	4.4755E+01
M	4.7784E+02	8.6248E+02	1.0814E+03
A	1.3279E+01	2.1447E+01	2.4566E+01
S	2.5948E+00	2.6733E+00	2.7453E+00
Z	3.0844E+00	3.2843E+00	3.5915E+00
GAMF	8.3522E-01	8.5763E-01	9.0419E-01
U	4.1355E+01	1.0559E+01	1.0337E+01

SPECIES	MOLE FRACTIONS
F-	4.6504E-01
HF	5.5517E-02
HF+	6.8804E-05
HF++	7.7490E-02
H	2.6798E-02
H+	1.4379E-02
H2	3.8344E-01
	1.5624E-13
	5.175E-01
	1.5504E-05
	2.6360E-02
	7.2963E-02
	1.3775E-04
	3.6512E-01
	6.2864E-14

P1 = 6.00E+00 N/SQ-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9243E+03	2.8834E+04	4.6452E+04
T	7.1827E+01	1.4470E+02	2.0245E+02
PHQ	1.2863E+01	5.7880E+01	4.7254E+01
M	5.1987E+02	9.1929E+02	1.1699E+03
A	1.3945E+01	2.2093E+01	2.6755E+01
S	2.4589E+00	2.6903E+00	2.7892E+00
Z	3.1655E+00	3.4408E+00	3.6097E+00
GAMF	9.5537E-01	9.6126E-01	9.7475E-01
U	4.2922E+01	1.0823E+01	1.0354E+01

SPECIES	MOLE FRACTIONS
F-	4.7875E-01
HF	3.3643E-02
HF+	4.4041E-05
HF++	6.0521E-02
H	4.1147E-02
H+	1.8779E-04
H2	2.7763E-01
	9.6413E-14
	5.4290E-01
	6.2207E-04
	1.1048E-02
	8.5907E-02
	9.6900E-05
	3.6004E-01
	2.9464E-14

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SQ-M, US1= 6.20E+04 M/SEC						P1 = 5.00E+00 N/SQ-M, US1= 4.80E+04 M/SEC											
MOVING SHOCK			STANDING SHOCK			REFLECTED SHOCK			MOVING SHOCK			STANDING SHOCK			REFLECTED SHOCK		
P	3.7610E+03		2.8929E+04		4.8658E+04				5.497E+02		3.1247E+04				5.7243E+04		
T	1.1412E+02		2.0371E+02		3.3054E+02				3.499E+02		3.499E+02				4.8797E+02		
EMF	0.9824E+00		3.0197E+01		4.0232E+01				3.1724E+01		3.1724E+01				3.421E+01		
M	5.7044E+02		1.1825E+03		1.5785E+03				1.3987E+03		1.3987E+03				1.0999E+03		
W	2.0047E+01		2.7294E+01		3.7053E+01				3.7408E+01		3.7408E+01				4.341E+01		
A	2.7438E+00		7.8473E+00		2.9734E+00				3.9411E+00		3.9411E+00				3.0417E+00		
Z	3.3012E+00		3.0421E+00		3.6496E+00				3.4487E+00		3.4487E+00				3.4499E+00		
GAME	1.0490E+00		1.0094E+00		1.1780E+00				1.1731E+00		1.1731E+00				1.1739E+00		
U	4.8084E+01		1.2742E+01		1.5828E+01				1.8446E+01		1.8446E+01				2.0097E+01		
SPECIES						MOLE FRACTIONS						MOLE FRACTIONS					
E-	5.0019E-01		3.6472E-01		5.479E-01				5.1228E-01		5.4778E-01				5.4794E-01		
HE	1.0479E-04		7.0187E-04		8.3281E-05				2.3971E-02		4.3082E-02				3.437E-02		
ME+	1.0707E-01		7.0779E-03		8.8118E-05				7.880E-02		3.889E-04				1.379E-02		
MF++	7.8984E-04		8.9499E-02		9.8812E-02				2.489E-02		9.5895E-02				9.878E-02		
M	2.5174E-04		8.9911E-05		1.1201E-05				1.1201E-05		7.6531E-05				3.757E-04		
W+	3.0384E-01		3.0384E-01		3.0384E-01				3.9411E-01		1.7028E-01				3.617E-01		
W2	4.0289E-04		7.0071E-04		2.1679E-04				3.3507E-01		4.1212E-01				2.0220E-01		

PI = 5.00E+00 N/SC-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.7709E+03	3.2784E+04	6.1926E+04
T	1.4E+04E+02	2.5562E+02	5.0514E+02
BMH	9.5492E+00	3.0789E+01	3.3586E+01
M	8.5E+05E+02	1.4764E+03	2.0955E+03
A	2.494E+01	7.021E+01	4.5824E+01
S	2.8717E+00	7.9865E+00	3.0850E+00
Z	3.42E+00E+00	3.4494E+00	3.600E+00
GAME	8.4244E+01	1.1348E+00	1.1389E+00
U	5.6078E+01	1.7002E+01	2.1516E+01

SPECIES	MOLE FRACTIONS
E-	5.1824E-01
HE	1.4442E-06
ME+	4.4E+09E-07
MF+	5.6791E-02
M	4.4371E-04
M+	3.7941E-01
M2	2.3499E-14
	5.4787E-01
	1.4444E-08
	1.4E+28E-04
	9.578E-02
	1.2032E-08
	3.6421E-01
	1.9241E-14

PI = 5.00E+00 N/SC-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9848E+03	2.8944E+04	4.9824E+04
T	1.24E+04E+02	2.2205E+02	3.4813E+02
BMH	9.5364E+00	1.4827E+01	3.7041E+01
M	7.1344E+02	1.2E+02E+03	1.4919E+03
A	1.9817E+01	2.8788E+01	7.0135E+01
S	2.7793E+00	7.9007E+00	3.9031E+00
Z	3.1144E+00	7.640E+00	7.649E+00
GAME	9.3936E-01	1.2829E+00	1.1286E+00
U	4.0178E+01	1.3125E+01	1.0139E+01

SPECIES	MOLE FRACTIONS
E-	5.0249E-01
HE	6.2322E-05
ME+	1.0027E-01
MF+	5.2021E-03
M	1.2448E-04
M+	3.9183E-01
M2	1.1314E-14
	5.4477E-01
	5.6460E-05
	2.5479E-03
	9.3572E-02
	7.5844E-02
	7.4242E-04
	3.5417E-01
	8.6242E-17

PI = 5.00E+00 N/SC-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2348E+03	2.9012E+04	5.3033E+04
T	1.340E+02	2.4477E+02	4.1124E+02
BMH	6.4478E+00	7.3512E+01	3.5333E+01
M	7.5871E+02	1.3228E+03	1.8187E+03
A	1.9709E+01	3.1428E+01	4.1244E+01
S	2.8120E+00	2.922E+00	3.0348E+00
Z	2.74E+00E+00	3.4457E+00	3.6499E+00
GAME	8.737E-01	1.1207E+00	1.138E+00
U	5.0942E+01	1.4224E+01	1.0770E+01

SPECIES	MOLE FRACTIONS
E-	5.0484E-01
HE	7.6223E-05
ME+	9.0727E-02
MF+	1.3879E-03
M	9.5444E-06
M+	7.8844E-01
M2	5.2774E-14
	5.4752E-01
	1.45E+05E-07
	8.9197E-04
	9.5084E-02
	2.5419E-05
	3.4547E-01
	1.0010E-14
	5.4792E-01
	9.1410E-10
	7.2348E-05
	9.5871E-02
	5.1844E-06
	3.5617E-01
	2.9811E-17

Table I. - Continued

$$p_1 = 10 \text{ N/m}^2$$

p1 = 1.00E+01 N/SC-M, US1= 4.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.29E+01	2.87E+01	1.22E+01
T	3.55E+00	4.47E+00	4.79E+00
RMC	3.92E+00	6.42E+00	1.12E+01
M	3.63E+00	4.13E+00	4.86E+00
A	1.87E+00	2.08E+00	2.40E+00
S	1.05E+00	1.05E+00	1.07E+00
Z	1.00E+00	1.00E+00	1.00E+00
GAMF	9.87E-01	9.72E-01	9.02E-01
U	2.57E+00	1.57E+00	1.17E+00
SPECIES ----- MOLE FRACTIONS -----			
F-	1.8029E-48	5.8144E-20	5.4970E-18
HF	3.5000E-01	3.5000E-01	3.4975E-01
HF+	5.4728E-64	5.2522E-54	2.7597E-47
HF++	0.	0.	0.
H	1.3953E-07	1.4227E-06	4.204E-03
H+	8.1343E-20	8.1343E-20	5.574E-18
H2	4.5000E-01	6.4999E-01	6.4443E-01

p1 = 1.00E+01 N/SC-M, US1= 7.00E+02 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.92E+01	1.99E+02	3.14E+02
T	7.51E+00	9.44E+00	9.71E+00
RMC	8.89E+00	7.02E+01	2.86E+01
M	8.37E+00	1.48E+01	1.83E+01
A	7.48E+00	2.76E+00	2.52E+00
S	1.13E+00	1.15E+00	1.17E+00
Z	1.02E+00	1.08E+00	1.12E+00
GAMF	8.03E-01	7.82E-01	7.81E-01
U	5.00E+00	1.54E+00	1.28E+00
SPECIES ----- MOLE FRACTIONS -----			
F-	9.444E-1E	2.517E-12	2.997E-11
HF	3.422E-01	3.420E-01	3.398E-01
HF+	3.778E-27	1.400E-20	4.761E-29
HF++	0.	0.	0.
H	4.424E-02	1.542E-01	2.291E-01
H+	9.664E-15	3.517E-12	2.599E-11
H2	5.12E-0E-00	5.227E-01	4.609E-01

P1 = 1.00E+01 N/50-M, US1 = 4.00E+03 M/50F

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2030E+01	6.7721E+01	1.2332E+02
T	4.9845E+00	6.5604E+00	7.0008E+00
RHO	4.4191E+00	8.7681E+00	5.5229E+01
M	5.1730E+00	7.1304E+00	9.4570E+00
A	2.1945E+00	2.4102E+00	2.5538E+00
S	1.0811E+00	1.0844E+00	1.1015E+00
Z	1.7001E+00	1.0035E+00	1.2248E+00
GAME	9.6608E-01	8.9244E-01	8.0543E-01
U	3.3348E+00	1.5798E+00	1.3619E+00

SPECIES	MOLE FRACTIONS
E-	1.4675E-17
HE	3.4879E-01
ME+	2.9882E-42
ME++	0.
M	6.9078E-01
M+	1.4543E-17
M2	6.4430E-01

P1 = 1.00E+01 N/50-M, US1 = 4.00E+03 M/50F

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2237E+01	1.0928E+02	1.9484E+02
T	6.4820E+00	8.0362E+00	8.8499E+00
RHO	4.9537E+00	1.3188E+01	2.0602E+01
M	7.0742E+00	1.0542E+01	1.3644E+01
A	2.3866E+00	2.8718E+00	2.7292E+00
S	1.1044E+00	1.1133E+00	1.1363E+00
Z	1.0039E+00	1.0320E+00	1.0681E+00
GAME	8.7524E-01	7.9745E-01	7.8521E-01
U	4.1278E+00	1.5499E+00	1.3062E+00

SPECIES	MOLE FRACTIONS
E-	1.4853E-17
HE	3.4863E-01
ME+	7.5430E-43
ME++	0.
M	6.2010E-02
M+	7.7251E-14
M2	5.9884E-01

P1 = 1.00E+01 N/50-M, US1 = 8.00E+03 M/50F

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0440E+01	3.3343E+02	4.9785E+02
T	8.2039E+00	9.9017E+00	1.0127E+01
RHO	7.0160E+00	2.9798E+01	3.9223E+01
M	1.2330E+01	1.9835E+01	2.3510E+01
A	2.6012E+00	2.9842E+00	3.1559E+00
S	1.1618E+00	1.1928E+00	1.2229E+00
Z	1.0520E+00	1.1103E+00	1.2055E+00
GAME	7.8381E-01	7.8151E-01	7.8476E-01
U	5.9120E+00	1.4165E+00	1.2946E+00

SPECIES	MOLE FRACTIONS
E-	3.6442E-13
HE	3.3214E-01
ME+	4.6434E-24
ME++	0.
M	1.0701E-01
M+	2.4425E-17
M2	6.4449E-01

P1 = 1.00E+01 N/50-M, US1 = 9.00E+03 M/50F

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8264E+01	3.1829E+02	7.4120E+02
T	8.7477E+00	1.0702E+01	1.1244E+01
RHO	8.1810E+00	3.9608E+01	5.0645E+01
M	1.5027E+01	2.5544E+01	3.0277E+01
A	2.7226E+00	3.2349E+00	3.4089E+00
S	1.1941E+00	1.2394E+00	1.2745E+00
Z	1.0934E+00	1.2291E+00	1.2644E+00
GAME	7.7475E-01	7.8577E-01	7.9129E-01
U	6.9039E+00	1.4144E+00	1.3194E+00

SPECIES	MOLE FRACTIONS
E-	2.3459E-12
HE	3.9220E-10
ME+	3.8477E-31
ME++	9.2133E-37
M	0.
M+	3.7275E-01
M+	3.9220E-10
M2	3.4248E-01

Table I. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P ₁ = 1.00E+01 N/50-M, US1 = 1.00E+04 M/SEC				P ₁ = 1.00E+01 N/50-M, US1 = 1.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
P	9.89E+01	7.54E+02	1.0E+03	P	1.67E+02	1.73E+03	2.50E+03
T	9.22E+00	1.1E+01	1.22E+01	T	1.05E+01	1.74E+01	2.78E+01
M	9.32E+00	4.97E+01	4.1E+01	M	1.27E+01	4.97E+01	6.42E+01
H	1.83E+01	3.19E+01	3.74E+01	H	2.07E+01	5.43E+01	7.57E+01
A	2.85E+00	2.4E+00	3.70E+00	A	2.91E+00	4.79E+00	5.47E+00
S	1.22E+00	1.29E+00	1.39E+00	S	1.35E+00	1.45E+00	1.51E+00
Z	1.14E+00	1.31E+00	1.39E+00	Z	1.31E+00	1.41E+00	1.49E+00
GA	7.73E+01	7.92E+01	8.02E+01	GA	7.82E+01	9.21E+01	1.09E+02
U	1.59E+00	1.44E+00	1.37E+01	U	1.02E+01	1.81E+01	2.22E+02

MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
P	1.74E+11	2.28E+09	9.06E+09	P	5.01E+10	9.09E+07	3.0E+07E-04
T	3.07E+01	2.44E+01	2.51E+01	T	2.58E+01	2.12E+01	2.12E+01
M	2.58E+30	1.62E+24	6.70E+22	M	9.17E+27	4.81E+18	1.22E+12
H	0.	3.32E+00	3.03E+00	H	0.	1.07E+07	1.6E+05E-44
A	2.45E+01	4.83E+01	5.45E+01	A	4.80E+01	7.57E+01	7.66E+01
S	1.2E+11	2.28E+09	9.06E+09	S	5.01E+10	9.09E+07	3.0E+07E-04
Z	6.47E+01	2.51E+01	1.83E+01	Z	2.58E+01	2.12E+01	2.12E+01

P1 = 1.00E+01 N/SG-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1988E+02	1.041E+03	1.428E+03
T	9.561E+00	1.2779E+01	1.2349E+01
PMO	1.0305E+01	5.9400E+01	1.1131E+01
M	2.2089E+01	3.8944E+01	4.5431E+01
A	2.9914E+00	1.7688E+00	4.0707E+00
S	1.2617E+00	1.3648E+00	1.2882E+00
Z	1.1930E+00	1.4164E+00	1.5075E+00
GAME	7.7433E+01	8.7494E+01	8.211E+01
U	8.5485E+00	1.5007E+00	1.4670E+00

SPECIES	MOLE FRACTIONS
E-	5.0141E-11
ME	2.9337E-01
ME+	9.2E-2E-29
M	3.2741E-01
M+	5.0141E-11
M2	3.8407E-01
E-	1.1792E-08
ME	2.4710E-01
ME+	9.8026E-23
M	3.2597E-01
M+	5.8800E-01
M2	1.1792E-08
E-	1.4490E-01
ME	2.4710E-01
ME+	9.8026E-23
M	3.2597E-01
M+	5.8800E-01
M2	1.1792E-08

P1 = 1.00E+01 N/SG-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4377E+02	1.3745E+03	1.888E+03
T	1.0084E+01	1.3489E+01	1.6471E+01
PMO	1.138E+01	4.726E+01	7.8809E+01
M	2.6135E+01	4.6602E+01	5.4663E+01
A	1.346E+00	4.1249E+00	4.7802E+00
S	1.3092E+00	1.4011E+00	1.4501E+00
Z	1.2500E+00	1.5198E+00	1.6103E+00
GAME	7.7881E+01	8.2993E+01	9.1725E+01
U	9.4331E+00	1.6073E+00	1.4480E+00

SPECIES	MOLE FRACTIONS
E-	1.4476E-10
ME	2.7954E-01
ME+	9.0194E-28
M	4.0241E-01
M+	1.6676E-10
M2	3.1797E-01
E-	1.5764E-08
ME	2.7954E-01
ME+	7.2945E-23
M	9.9309E-01
M+	1.6676E-10
M2	3.1797E-01
E-	1.5764E-08
ME	2.7954E-01
ME+	7.2945E-23
M	9.9309E-01
M+	1.6676E-10
M2	3.1797E-01

P1 = 1.00E+01 N/SG-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9764E+02	2.0512E+03	2.1843E+03
T	1.0672E+01	2.0212E+01	2.0943E+01
PMO	1.2998E+01	5.1849E+01	5.1888E+01
M	3.8776E+01	4.3355E+01	4.2688E+01
A	3.4528E+00	6.0428E+00	7.0241E+00
S	1.3983E+00	1.8045E+00	1.8570E+00
Z	1.3849E+00	1.8473E+00	1.8628E+00
GAME	7.8843E+01	1.1172E+02	9.8918E+01
U	1.1138E+01	2.2414E+00	2.9988E+00

SPECIES	MOLE FRACTIONS
E-	1.4755E-09
ME	2.8784E-01
ME+	9.6547E-24
M	2.8784E-01
M+	1.0933E+00
M2	7.8873E-01
E-	1.4755E-09
ME	2.8784E-01
ME+	9.6547E-24
M	2.8784E-01
M+	1.0933E+00
M2	7.8873E-01

P1 = 1.00E+01 N/SG-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2774E+02	2.3408E+03	3.0452E+03
T	1.1404E+01	2.6397E+01	3.2708E+01
PMO	1.2663E+01	5.4142E+01	5.3589E+01
M	4.0344E+01	7.2196E+01	9.2742E+01
A	3.6597E+00	6.7854E+00	7.2998E+00
S	1.4456E+00	1.8423E+00	1.8499E+00
Z	1.4456E+00	1.8423E+00	1.8499E+00
GAME	7.0803E+01	1.0559E+02	8.8124E+01
U	1.1075E+01	2.9987E+00	2.2470E+00

SPECIES	MOLE FRACTIONS
E-	4.5017E-09
ME	2.3980E-01
ME+	1.4715E-24
M	3.9187E-01
M+	4.2972E-01
M2	4.5017E-09
E-	1.7372E-07
ME	2.3980E-01
ME+	8.5755E-10
M	9.2143E-01
M+	7.8451E-01
M2	1.7372E-07
E-	1.7372E-07
ME	2.3980E-01
ME+	8.5755E-10
M	9.2143E-01
M+	7.8451E-01
M2	1.7372E-07

Table I. - Continued

$$P_1 = 10 \text{ N/m}^2$$

$P_1 = 1.00E+01 \text{ N/SQ-M,} \quad U_1 = 1.40E+01 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5921E+02	2.4822E+02	7.4645E+02
T	1.2170E+01	2.1482E+01	3.5578E+01
PHN	1.2877E+01	2.1160E+01	4.4102E+01
M	4.5801E+01	8.1728E+01	1.0511E+02
A	3.9775E+00	7.0177E+00	2.5921E+00
S	1.4935E+00	1.5773E+00	1.6205E+00
Z	1.5344E+00	1.4664E+00	1.7229E+00
GAME	8.777E-01	9.3888E-01	8.5334E-01
U	1.2756E+01	1.4570E+01	3.1940E+01
SPECIES			
	MOLE FRACTIONS		
F-	1.7568E-08	1.0050E-02	4.7891E-02
HF	2.2794E-01	2.1091E-01	2.0194E-01
HF+	5.3042E-23	6.5007E-08	4.7293E-04
HF++	8.1422E-06	2.3855E-21	2.8798E-24
H	5.9739E-01	7.4982E-01	7.0222E-01
H+	1.7544E-08	1.0050E-02	4.7891E-02
H2	7.4662E-02	1.5079E-04	2.1173E-02

$P_1 = 1.00E+01 \text{ N/SQ-M,} \quad U_1 = 1.90E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5601E+02	2.8647E+02	4.5702E+02
T	2.0643E+01	2.9542E+01	4.4485E+01
PHN	1.7495E+01	4.1032E+01	5.4505E+01
M	4.3929E+01	1.1251E+02	1.4070E+02
A	4.1544E+00	7.4487E+00	8.3059E+00
S	1.5227E+00	1.6732E+00	1.7223E+00
Z	1.6499E+00	1.7616E+00	1.8694E+00
GAME	1.1172E+00	8.3794E-01	8.3003E-01
U	1.4811E+01	3.7878E+01	3.5229E+01
SPECIES			
	MOLE FRACTIONS		
F-	1.9784E-04	6.5469E-02	1.1690E-01
HF	2.1713E-01	1.9822E-01	1.8728E-01
HF+	9.5079E-13	7.7669E-04	5.0484E-05
HF++	5.6784E-09	1.4204E-23	1.8427E-20
H	7.8772E-01	4.7082E-01	4.7891E-01
H+	1.9784E-04	6.5469E-02	1.1690E-01
H2	2.5048E-04	1.6987E-05	1.1460E-05

PI = 1.00E+01 N/50-M, US1= 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.921E+02	2.977E+03	4.933E+03
T	1.329E+01	3.517E+01	4.149E+01
PHN	1.347E+01	5.014E+01	6.489E+01
M	4.154E+01	9.199E+01	1.177E+02
A	4.325E+01	7.234E+01	7.874E+01
S	1.841E+01	1.604E+01	1.452E+01
Z	1.605E+01	1.493E+01	1.774E+01
GAME	8.775E-01	8.811E-01	8.408E-01
U	1.348E+01	3.703E+01	3.491E+01

SPECIES	MOLE FRACTIONS	
F-	1.1040E-07	2.5892E-02
HF	2.178E-01	2.066E-01
HF+	7.811E-21	6.977E-07
HF++	3.807E-78	4.278E-28
H	7.550E-01	7.415E-01
H+	1.194E-07	2.589E-02
H2	2.717E-02	4.376E-01

PI = 1.00E+01 N/50-M, US1= 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.244E+02	3.003E+03	4.883E+03
T	1.604E+01	3.771E+01	4.324E+01
PHN	1.229E+01	4.612E+01	4.194E+01
M	7.620E+01	1.023E+02	1.295E+02
A	2.708E+01	7.442E+01	8.113E+01
S	1.583E+01	1.638E+01	1.681E+01
Z	1.645E+01	1.727E+01	1.823E+01
GAME	1.276E+01	8.516E-01	8.343E-01
U	1.425E+01	3.793E+01	3.825E+01

SPECIES	MOLE FRACTIONS	
F-	4.224E-06	4.492E-02
HF	2.127E-01	2.025E-01
HF+	6.117E-17	3.040E-06
HF++	2.641E-64	2.995E-05
H	7.842E-01	7.075E-01
H+	4.224E-05	4.492E-02
H2	2.943E-03	2.419E-01

PI = 1.00E+01 N/50-M, US1= 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.894E+02	2.857E+03	4.413E+03
T	1.502E+01	4.119E+01	4.575E+01
PHN	9.416E+01	2.837E+01	5.018E+01
M	7.057E+01	1.234E+02	1.526E+02
A	4.208E+01	7.844E+01	8.521E+01
S	1.651E+01	1.701E+01	1.765E+01
Z	1.453E+01	1.607E+01	1.917E+01
GAME	1.077E+01	8.746E-01	8.278E-01
U	1.440E+01	3.780E+01	3.474E+01

SPECIES	MOLE FRACTIONS	
F-	2.329E-02	8.724E-02
HF	2.116E-01	1.936E-01
HF+	4.744E-10	1.654E-05
HF++	2.293E-20	2.426E-22
H	7.926E-01	6.219E-01
H+	2.329E-03	8.722E-02
H2	5.206E-05	1.231E-05

PI = 1.00E+01 N/50-M, US1= 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.270E+02	3.022E+03	4.582E+03
T	2.856E+01	4.286E+01	4.721E+01
PHN	8.975E+01	3.801E+01	4.023E+01
M	7.761E+01	1.354E+02	1.642E+02
A	6.428E+01	8.107E+01	9.775E+01
S	1.677E+01	1.737E+01	1.789E+01
Z	1.465E+01	1.458E+01	1.971E+01
GAME	9.234E-01	8.248E-01	8.273E-01
U	1.408E+01	3.799E+01	3.485E+01

SPECIES	MOLE FRACTIONS	
F-	9.504E-02	1.104E-01
HF	2.101E-01	1.867E-01
HF+	1.425E-08	3.273E-07
HF++	8.649E-34	2.892E-21
H	7.706E-01	5.904E-01
H+	9.504E-03	1.104E-01
H2	2.100E-05	9.429E-06

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SC-M, US1 = 2.20E+04 M/SEC				P1 = 1.00E+01 N/SC-M, US1 = 2.50E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4817E+02	3.3202E+02	4.9641E+03	P	4.0847E+02	4.4617E+02	6.7765E+03
T	2.1119E+01	4.5572E+01	4.8830E+01	T	2.4305E+01	4.9699E+01	5.4152E+01
OH	8.9102E+00	2.5058E+01	4.0048E+01	OH	9.4433E+00	4.5017E+01	5.6051E+01
H	8.5074E+01	1.4870E+02	1.9127E+02	H	1.0972E+02	1.9975E+02	2.3322E+02
A	4.7583E+00	8.270E+00	9.0628E+00	A	7.277E+00	9.293E+00	1.0047E+01
S	1.7021E+00	1.7472E+00	1.8209E+00	S	1.7774E+00	1.8568E+00	1.9175E+00
Z	1.6841E+00	1.5047E+00	2.0309E+00	Z	1.7748E+00	2.0834E+00	2.2245E+00
GAME	9.6936E-01	9.2533E-01	8.7908E-01	GAME	8.215E-01	8.2794E-01	8.3495E-01
U	1.6835E+01	3.8423E+00	3.5446E+00	U	1.9244E+01	4.0423E+00	3.9009E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
F-	2.1425E-02	1.2442E-01	1.8756E-01	F-	3.0321E-02	2.0910E-01	2.4094E-01
HF	2.078E-01	1.840E-01	1.7211E-01	HF	1.9720E-01	1.6767E-01	1.5584E-01
HF+	1.298E-07	4.1416E-06	2.2612E-06	HF+	3.2049E-04	2.0642E-04	9.3420E-04
HF++	1.4544E-07	2.939E-20	4.0309E-18	HF++	2.0549E-20	1.1627E-17	7.8332E-16
H	7.49E-01	5.4723E-01	4.5276E-01	H	6.4215E-01	4.1513E-01	3.2228E-01
H+	2.163E-02	1.3457E-01	1.8732E-01	H+	7.0318E-02	2.0779E-01	2.4001E-01
H2	1.2970E-06	7.4449E-06	5.1383E-06	H2	5.4542E-06	3.793E-06	2.3581E-06

P1 = 1.00E+01 N/50-M, US1 = 2.62E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.609E+02	5.213E+02	7.4321E+03
T	3.741E+01	4.140E+01	5.404E+01
PHN	9.593E+00	4.721E+01	5.829E+01
M	1.186E+00	2.102E+02	2.524E+02
A	7.4E+00	9.745E+00	1.040E+01
S	1.794E+00	1.887E+00	1.950E+00
Z	1.810E+00	2.148E+00	2.305E+00
GAMF	8.159E+01	8.301E+01	8.382E+01
U	2.009E+01	4.127E+00	4.006E+00

SPECIES	MOLE FRACTIONS
F-	2.210E-01
HE	1.503E-01
HF+	1.467E-03
HF+	4.900E-04
HF+	4.62E-17
H	3.738E-01
H+	2.313E-01
H2	2.988E-06

P1 = 1.00E+01 N/50-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.123E+02	3.706E+02	5.478E+03
T	3.317E+01	4.629E+01	5.048E+01
PHN	9.021E+00	4.079E+01	5.174E+01
M	1.251E+01	1.628E+02	1.975E+02
A	6.9E+00	8.6E+00	9.17E+00
S	1.72E+00	1.75E+00	1.8E+00
Z	1.712E+00	1.96E+00	2.094E+00
GAMF	8.415E+01	8.2E+01	8.297E+01
U	1.76E+01	3.900E+00	3.717E+00

SPECIES	MOLE FRACTIONS
F-	1.592E-01
HE	1.473E-01
HF+	3.658E-04
HF+	2.463E-17
H	4.087E-01
H+	2.119E-01
H2	4.015E-06

P1 = 1.00E+01 N/50-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.138E+02	5.808E+02	9.351E+03
T	3.887E+01	5.313E+01	5.801E+01
PHN	9.918E+00	4.933E+01	6.041E+01
M	1.279E+02	2.275E+02	2.725E+02
A	7.6E+00	9.899E+00	1.078E+01
S	1.822E+00	1.918E+00	1.984E+00
Z	1.847E+00	2.214E+00	2.380E+00
GAMF	8.142E+01	8.328E+01	8.417E+01
U	2.093E+01	4.221E+00	4.121E+00

SPECIES	MOLE FRACTIONS
F-	2.549E-01
HE	1.894E-01
HF+	7.671E-04
HF+	3.479E-16
H	5.964E-01
H+	2.541E-01
H2	2.318E-06

P1 = 1.00E+01 N/50-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.609E+02	4.174E+02	4.089E+03
T	3.48E+01	4.794E+01	5.232E+01
PHN	9.211E+00	4.788E+01	5.387E+01
M	1.011E+02	1.779E+02	2.149E+02
A	7.09E+00	8.9E+00	9.703E+00
S	1.749E+00	1.8E+00	1.884E+00
Z	1.741E+00	2.021E+00	2.1E+00
GAMF	8.203E+01	8.202E+01	8.320E+01
U	1.864E+01	3.945E+00	3.804E+00

SPECIES	MOLE FRACTIONS
F-	1.818E-01
HE	1.412E-01
HF+	1.465E-04
HF+	1.420E-14
H	4.502E-01
H+	1.8E+01
H2	4.744E-06

$$p_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SQ-M, US1 = 2.80E+04 M/SEC				P1 = 1.00E+01 N/SQ-M, US1 = 2.20E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	6.4428E+03	9.7293E+03	9.7293E+03	P	3.0133E+03	9.3412E+03	1.3295E+04
T	3.9957E+01	4.7086E+01	4.7086E+01	T	6.2647E+01	5.2542E+01	4.9549E+01
PMQ	1.0275E+01	5.1417E+01	4.2840E+01	PMQ	1.1149E+01	6.8225E+01	6.5369E+01
M	1.274CE+02	2.4539E+02	2.9359E+02	M	1.7958E+01	3.2249E+02	6.2629E+01
A	7.8283E+00	1.0234E+01	1.1169E+01	A	8.5944E+00	1.1649E+01	1.2757E+01
Z	1.8644E+00	2.9622E+00	2.0177E+00	Z	1.9443E+00	2.0759E+00	2.1547E+00
S	1.8870E+00	2.2829E+00	2.4561E+00	S	2.0609E+00	2.5652E+00	2.7558E+00
GAME	8.1277E-01	8.2591E-01	8.4533E-01	GAME	8.1232E-01	8.4875E-01	8.5045E-01
U	2.1748E+01	4.3230E+00	4.2555E+00	U	2.5108E+01	4.8175E+00	4.8194E+00
SPECIES				SPECIES			
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
F-	1.7560E-01	2.7722E-01	2.3820E-01	F-	1.0937E-01	2.5678E-01	4.0127E-01
HF	1.8546E-01	1.4721E-01	1.3893E-01	HF	1.6074E-01	1.3018E-01	1.0755E-01
ME+	1.8573E-05	1.1826E-03	3.7714E-03	ME+	9.5560E-03	6.2495E-03	1.9474E-02
ME++	1.3392E-22	1.7125E-15	1.0525E-13	ME++	5.7422E-20	7.3401E-19	5.7195E-19
H	5.6233E-01	2.9342E-01	2.0468E-01	H	4.3153E-01	1.6624E-01	8.9928E-02
H+	1.2559E-01	3.2750E-01	3.2462E-01	H+	1.0052E-01	3.5055E-01	2.8179E-01
H2	3.0568E-06	1.7657E-06	8.8424E-07	H2	1.6888E-06	4.5530E-07	1.5203E-07

P1 = 1.00E+01 N/SQ-M, US1= 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.2776E+02	7.1154E+01	1.0164E+04
T	4.1024E+01	5.4692E+01	4.2271E+01
RHO	1.0461E+01	5.2350E+01	4.4444E+01
M	1.7595E+02	2.6304E+02	3.1748E+02
A	8.0144E+00	1.0580E+01	1.1748E+01
S	1.8590E+00	1.9876E+00	2.0518E+00
Z	1.9282E+00	2.7524E+00	2.5326E+00
GAME	8.1214E-01	8.3923E-01	8.4849E-01
U	2.2604E+01	4.4333E+00	4.3790E+00

SPECIES	MOLE FRACTIONS	
F-	1.4429E-01	2.9865E-01
HF	1.8149E-01	1.4697E-01
HF+	2.9412E-05	1.8257E-03
HE++	7.3291E-22	8.0517E-15
M	5.2994E-01	2.5573E-01
H+	1.4426E-01	2.9684E-01
H2	2.5550E-06	1.3138E-06

P1 = 1.00E+01 N/SQ-M, US1= 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.8786E+02	7.8235E+03	1.1145E+04
T	4.2074E+01	5.8537E+01	4.6582E+01
RHO	1.0706E+01	5.5134E+01	6.6214E+01
M	1.5784E+02	2.8315E+02	3.3824E+02
A	8.2049E+00	1.0935E+01	1.1571E+01
S	1.8939E+00	2.0122E+00	2.0840E+00
Z	1.9711E+00	2.4233E+00	2.6087E+00
GAME	8.1211E-01	9.4267E-01	8.5064E-01
U	2.3440E+01	4.5524E+00	4.5204E+00

SPECIES	MOLE FRACTIONS	
F-	1.6291E-01	3.1911E-01
HF	1.7752E-01	1.4149E-01
HF+	4.4833E-06	2.7411E-03
HE++	3.4888E-21	3.6839E-14
M	4.9647E-01	2.2009E-01
H+	1.6286E-01	2.1627E-01
H2	2.1370E-06	9.5163E-07

P1 = 1.00E+01 N/SQ-M, US1= 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1488E+02	1.0952E+04	1.5594E+04
T	4.4023E+01	4.4092E+01	7.4804E+01
RHO	1.1547E+01	4.0431E+01	7.0049E+01
M	2.0284E+02	3.4674E+02	4.3749E+02
A	9.0014E+00	1.2403E+01	1.3605E+01
S	1.9949E+00	2.1399E+00	2.2231E+00
Z	2.1574E+00	2.7032E+00	2.8924E+00
GAME	8.1584E-01	8.5063E-01	8.4049E-01
U	2.6748E+01	5.1090E+00	5.1191E+00

SPECIES	MOLE FRACTIONS	
F-	2.3527E-01	3.4940E-01
HF	1.4202E-01	1.1454E-01
HF+	1.0131E-04	1.3940E-02
HE++	7.3807E-19	1.7422E-11
M	3.6743E-01	1.0515E-01
H+	2.3508E-01	3.7477E-01
H2	1.0011E-04	1.9373E-07

P1 = 1.00E+01 N/SQ-M, US1= 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0915E+02	1.2494E+04	1.8047E+04
T	4.7998E+01	7.1571E+01	8.0624E+01
RHO	1.1912E+01	4.2409E+01	7.4170E+01
M	2.2738E+02	4.1177E+02	4.5148E+02
A	9.4254E+00	1.3116E+01	1.4465E+01
S	2.0502E+00	2.2037E+00	2.2014E+00
Z	2.2599E+00	2.8232E+00	3.0251E+00
GAME	8.1944E-01	8.4849E-01	8.4049E-01
U	2.8422E+01	5.4090E+00	5.4241E+00

SPECIES	MOLE FRACTIONS	
F-	2.5951E-01	4.1762E-01
HF	1.5450E-01	9.5955E-02
HF+	2.5640E-04	2.7490E-02
HE++	7.9702E-19	1.0777E-11
M	3.6399E-01	4.8808E-02
H+	2.6015E-01	3.9074E-01
H2	4.5822E-07	7.7444E-08

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P ₁ = 1.00E+01 N/SC-M, USI = 3.80E+04 M/SEC				P ₁ = 1.00E+01 N/SC-M, USI = 4.40E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
C-	1.4419E+03	1.4504E+04	2.0698E+04	C-	1.9780E+03	1.971E+04	3.0137E+04
HF	5.7031E+01	7.541E+01	8.7790E+01	HF	5.7370E+01	9.543E+01	1.4867E+02
HF+	1.2190E+01	4.4227E+01	7.4870E+01	HF+	1.2367E+01	4.079E+01	4.1127E+01
HE++	2.5372E+02	4.596E+02	5.505E+02	H	2.3047E+02	4.164E+02	7.7717E+02
H	9.8732E+00	1.38E+01	1.5723E+01	F	1.1406E+01	1.806E+01	2.189E+01
S	2.104E+00	2.2670E+00	2.349E+00	S	2.2717E+00	2.4519E+00	2.6664E+00
Z	2.3641E+00	2.5553E+00	3.1491E+00	Z	2.4904E+00	2.547E+00	3.3181E+00
GAME	8.241E-01	8.504E-01	8.9422E-01	GAME	8.4360E-01	1.0762E+00	5.537E-01
U	3.0064E+01	5.7084E+00	5.8412E+00	U	3.4906E+01	7.2091E+00	9.0291E+00
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
C-	3.0206E-01	4.4168E-01	4.7604E-01	C-	3.8470E-01	4.9304E-01	5.0273E-01
HF	1.473E-01	7.1732E-02	2.7918E-02	HF	1.2473E-01	5.848E-02	2.4537E-04
HF+	6.9287E-04	4.6701E-02	8.222E-02	HF+	5.757E-02	1.0094E-01	5.877E-02
HE++	7.8797E-17	2.1138E-09	1.2290E-07	HE++	1.0490E-13	3.577E-04	6.4412E-03
H	2.48E-2E-01	4.4914E-02	1.9999E-02	H	1.0187E-01	7.0491E-03	7.16E-04
S	3.0137E-01	3.9498E-01	5.9282E-01	S	3.8133E-01	3.923E-01	3.9107E-01
U	4.072E-07	3.1129E-08	6.0071E-09	U	5.2039E-19	5.2039E-19	3.5394E-12

P1 = 1.00E+01 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.599E+03	1.434E+04	2.359E+04
T	9.220E+01	8.183E+01	1.005E+02
PHO	1.239E+01	6.501E+01	7.210E+01
M	2.806E+02	5.098E+02	6.172E+02
A	1.031E+01	1.474E+01	1.810E+01
S	2.159E+00	2.330E+00	2.439E+00
Z	2.472E+00	3.072E+00	3.207E+00
GAME	8.300E+01	8.623E+01	1.002E+02
U	3.169E+01	6.043E+00	6.573E+00

SPECIES	MOLE FRACTIONS
E-	3.326E-01
HE	1.402E-01
ME+	1.220E-02
HE++	7.845E-16
H	1.644E-01
H+	3.313E-01
M2	2.374E-07

P1 = 1.00E+01 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.745E+03	1.813E+04	2.491E+04
T	9.449E+01	8.074E+01	1.210E+02
PHO	1.242E+01	6.428E+01	6.439E+01
M	3.093E+02	5.420E+02	6.669E+02
A	1.004E+01	1.599E+01	2.121E+01
S	2.215E+00	2.392E+00	2.459E+00
Z	2.492E+00	3.177E+00	3.291E+00
GAME	8.369E+01	9.071E+01	1.092E+02
U	3.330E+01	6.493E+00	7.899E+00

SPECIES	MOLE FRACTIONS
E-	3.610E-01
HE	1.329E-01
ME+	2.607E-03
HE++	8.471E-15
H	1.401E-01
H+	3.584E-01
M2	1.203E-07

P1 = 1.00E+01 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.117E+03	2.101E+04	3.298E+04
T	6.441E+01	1.116E+02	1.421E+02
PHO	1.254E+01	6.499E+01	6.044E+01
M	3.709E+02	6.498E+02	9.415E+02
A	1.193E+01	2.038E+01	2.205E+01
S	2.324E+00	2.040E+00	2.602E+00
Z	2.792E+00	3.286E+00	3.263E+00
GAME	9.448E+01	1.093E+02	8.873E+01
U	3.448E+01	8.298E+00	9.447E+00

SPECIES	MOLE FRACTIONS
E-	4.092E-01
HE	1.140E-01
ME+	1.170E-02
HE++	1.424E-12
H	4.708E-02
H+	3.975E-01
M2	2.171E-08

P1 = 1.00E+01 N/SQ-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.305E+03	2.229E+04	3.583E+04
T	4.373E+01	1.442E+02	1.729E+02
PHO	1.253E+01	5.021E+01	4.065E+01
M	4.017E+02	7.255E+02	9.255E+02
A	1.242E+01	2.121E+01	2.268E+01
S	2.381E+00	2.514E+00	2.643E+00
Z	2.873E+00	3.200E+00	3.421E+00
GAME	8.295E+01	1.045E+02	8.725E+01
U	3.806E+01	9.444E+00	9.905E+00

SPECIES	MOLE FRACTIONS
E-	4.285E-01
HE	9.808E-02
ME+	2.223E-02
HE++	1.040E-01
H	1.790E-01
H+	4.396E+02
M2	4.042E-01
M2	8.358E-09

Table I. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SG-M, US1 = 5.00E+04 M/SEC				P1 = 1.00E+01 N/SG-M, US1 = 5.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	Y	M	A	P	Y	M	A
2.5018E+03	1.4927E+02	7.8504E+01	2.5402E+01	7.0247E+04	1.7755E+03	4.7821E+04	2.3985E+03
6.7038E+01	4.7994E+01	7.8504E+01	2.5402E+01	4.7821E+04	1.7755E+03	4.7821E+04	2.3985E+03
1.2861E+01	7.8504E+01	7.8504E+01	2.5402E+01	4.7821E+04	1.7755E+03	4.7821E+04	2.3985E+03
4.3800E+02	7.8504E+01	7.8504E+01	2.5402E+01	4.7821E+04	1.7755E+03	4.7821E+04	2.3985E+03
1.2917E+01	7.8504E+01	7.8504E+01	2.5402E+01	4.7821E+04	1.7755E+03	4.7821E+04	2.3985E+03
2.6387E+00	7.8504E+01	7.8504E+01	2.5402E+01	4.7821E+04	1.7755E+03	4.7821E+04	2.3985E+03
2.9788E+00	7.8504E+01	7.8504E+01	2.5402E+01	4.7821E+04	1.7755E+03	4.7821E+04	2.3985E+03
8.3872E-01	7.8504E+01	7.8504E+01	2.5402E+01	4.7821E+04	1.7755E+03	4.7821E+04	2.3985E+03
5.9457E+01	7.8504E+01	7.8504E+01	2.5402E+01	4.7821E+04	1.7755E+03	4.7821E+04	2.3985E+03
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
C-	5.2610E-01	5.2610E-01	5.2610E-01	C-	5.2610E-01	5.2610E-01	5.2610E-01
HF	1.9950E-04	1.9950E-04	1.9950E-04	HF	1.9950E-04	1.9950E-04	1.9950E-04
HF+	9.4474E-02	9.4474E-02	9.4474E-02	HF+	9.4474E-02	9.4474E-02	9.4474E-02
H	8.5582E-03	8.5582E-03	8.5582E-03	H	8.5582E-03	8.5582E-03	8.5582E-03
H+	5.8159E-04	5.8159E-04	5.8159E-04	H+	5.8159E-04	5.8159E-04	5.8159E-04
M+	3.9031E-01	3.9031E-01	3.9031E-01	M+	3.9031E-01	3.9031E-01	3.9031E-01
M2	1.6404E-12	1.6404E-12	1.6404E-12	M2	1.6404E-12	1.6404E-12	1.6404E-12

P1 = 1.00E+01 N/SEC-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7050E+03	2.5723E+04	4.1985E+04
T	7.0663E+01	1.6016E+02	1.9356E+02
PHO	1.2566E+01	4.7677E+01	6.1243E+01
M	4.7366E+02	4.6866E+02	1.0842E+03
A	1.3440E+01	2.1821E+01	2.4870E+01
S	2.8897E+00	2.6333E+00	2.7296E+00
Z	3.0611E+00	3.3687E+00	3.6427E+00
GAME	8.3901E-01	8.8258E-01	9.0723E-01
U	4.1246E+01	1.0867E+01	1.0630E+01

SPECIES	MOLE FRACTIONS
E-	4.5757E-01
HE	5.8669E-02
HF+	1.2282E-04
HF+	8.2877E-02
H+	3.1330E-05
H+	3.0140E-02
H+	2.0904E-02
H+	6.8637E-02
H+	1.9252E-04
H+	2.2691E-04
H+	2.6678E-01
H+	3.1534E-13

P1 = 1.00E+01 N/SEC-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9167E+03	2.7456E+04	4.9125E+04
T	7.6356E+01	1.6015E+02	2.0872E+02
PHO	1.2691E+01	4.7803E+01	6.0290E+01
M	4.1048E+02	4.1518E+02	1.1712E+03
A	1.4159E+01	2.2429E+01	2.6793E+01
S	2.5429E+00	2.6727E+00	2.7719E+00
Z	3.1429E+00	3.4202E+00	3.5949E+00
GAME	8.5706E-01	8.6596E-01	9.5629E-01
U	4.2811E+01	1.1174E+01	1.1316E+01

SPECIES	MOLE FRACTIONS
E-	4.7501E-01
HE	3.7219E-02
HF+	8.0766E-02
HF+	6.8719E-02
H+	1.5234E-02
H+	8.2121E-02
H+	1.6754E-04
H+	3.6149E-01
H+	1.6525E-13

P1 = 1.00E+01 N/SEC-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5244E+03	2.9017E+04	4.9334E+04
T	8.7657E+01	1.6045E+02	2.6144E+02
PHO	1.3440E+01	4.7677E+01	5.1778E+01
M	5.8843E+02	1.7500E+02	1.6965E+02
A	1.6947E+01	2.4767E+01	3.2879E+01
S	2.6470E+00	2.6591E+00	2.8637E+00
Z	2.7602E+00	3.6575E+00	3.6444E+00
GAME	1.0000E+00	8.8042E-01	1.1139E+00
U	4.5700E+01	1.1646E+01	1.1738E+01

SPECIES	MOLE FRACTIONS
E-	4.5578E-01
HE	5.2375E-02
HF+	9.0597E-02
HF+	2.4671E-02
H+	6.4700E-02
H+	1.0011E-04
H+	5.2052E-05
H+	2.5666E-01
H+	1.8017E-14

P1 = 1.00E+01 N/SEC-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5244E+03	2.9017E+04	4.8944E+04
T	8.7657E+01	1.6045E+02	2.6144E+02
PHO	1.3440E+01	4.7677E+01	4.5675E+01
M	5.8843E+02	1.7500E+02	1.6965E+02
A	1.6947E+01	2.4767E+01	3.2879E+01
S	2.6470E+00	2.6591E+00	2.8637E+00
Z	2.7602E+00	3.6575E+00	3.6444E+00
GAME	1.0000E+00	9.0000E-01	1.1326E+00
U	4.5900E+01	1.1646E+01	1.1440E+01

SPECIES	MOLE FRACTIONS
E-	4.5977E-01
HE	5.2375E-02
HF+	9.0597E-02
HF+	2.4671E-02
H+	6.4700E-02
H+	1.0011E-04
H+	5.2052E-05
H+	2.5666E-01
H+	9.7061E-14

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

$$P_1 = 20 \text{ N/m}^2$$

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1.42000E+00	2.64900E+00	4.55000E+00		
RHO	0.25170E+00	2.11000E+00	2.35000E+00		
H	8.00000E+00	3.00000E+00	1.00000E+00		
A	2.00000E+00	2.00000E+00	4.00000E+00		
S	2.00000E+00	2.00000E+00	2.00000E+00		
Z	2.00000E+00	2.00000E+00	2.00000E+00		
GAME	2.00000E+00	2.00000E+00	2.00000E+00		
U	2.00000E+00	2.00000E+00	2.00000E+00		

PI = 1.000000 M/SQ-H.M. URS = 6.000000 M/SEC					
MOVING SHOCK		STANDING SHOCK		REFLECTED SHOCK	
P	4.27810E+00	3.06490E+00	5.05000E+00		
T	1				

PI = 3.00E+01 N/SU-M. US = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.70E+00	3.39E+02	5.9837E+04
T	1.4097E+00	7.0486E+00	5.7103E+02
PHN	0.7097E+00	7.901E+00	7.2691E+00
M	8.7704E+00	1.672E+02	7.783E+03
A	7.70E+00	7.491E+00	4.545E+00
S	7.81E+00	7.071E+00	7.071E+00
Z	7.010E+00	7.448E+00	7.449E+00
GAME	4.570E+00	1.124E+00	1.128E+00
U	5.348E+00	1.44E+00	2.131E+00

SPECIES	MOL FRACTIONS
F-	5.1E-04
HF	5.6779E-08
HF+	5.067E-04
HE+	0.701E+00
H	1.0778E-04
H+	3.0174E-01
H2	1.000E-16
	5.470E-01
	4.7114E-10
	1.9177E-05
	9.5874E-07
	5.6675E-06
	3.6617E-01
	8.8120E-17

PI = 3.00E+01 N/SU-M. US = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.00E+00	2.00E+00	4.00E+00
T	1.00E+00	1.00E+00	1.00E+00
PHN	0.50E+00	0.50E+00	0.50E+00
M	1.00E+00	1.00E+00	1.00E+00
A	1.00E+00	1.00E+00	1.00E+00
S	1.00E+00	1.00E+00	1.00E+00
Z	1.00E+00	1.00E+00	1.00E+00
GAME	1.00E+00	1.00E+00	1.00E+00
U	1.00E+00	1.00E+00	1.00E+00

SPECIES	MOL FRACTIONS
F-	5.670E-01
HF	1.00E-04
HF+	4.641E-00
HE+	0.100E+00
H	1.00E-04
H+	3.0174E-01
H2	1.00E-16
	5.470E-01
	4.7114E-10
	1.9177E-05
	9.5874E-07
	5.6675E-06
	3.6617E-01
	8.8120E-17

PI = 3.00E+01 N/SU-M. US = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.70E+00	3.39E+02	5.9837E+04
T	1.4097E+00	7.0486E+00	5.7103E+02
PHN	0.7097E+00	7.901E+00	7.2691E+00
M	8.7704E+00	1.672E+02	7.783E+03
A	7.70E+00	7.491E+00	4.545E+00
S	7.81E+00	7.071E+00	7.071E+00
Z	7.010E+00	7.448E+00	7.449E+00
GAME	4.570E+00	1.124E+00	1.128E+00
U	5.348E+00	1.44E+00	2.131E+00

SPECIES	MOL FRACTIONS
F-	5.1E-04
HF	5.6779E-08
HF+	5.067E-04
HE+	0.701E+00
H	1.0778E-04
H+	3.0174E-01
H2	1.000E-16
	5.470E-01
	4.7114E-10
	1.9177E-05
	9.5874E-07
	5.6675E-06
	3.6617E-01
	8.8120E-17

$$p_1 = 20 \text{ N/m}^2$$

PI = 2.00E+01 N/SEC				USI = 7.00E+03 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.3067E+01	2.8749E+01	7.2302E+01	P	4.5043E+01	1.9230E+02	3.0106E+02
T	3.5041E+00	6.4265E+00	1.1241E+01	T	7.0473E+00	9.2752E+00	1.6013E+01
MH	3.9243E+00	6.4265E+00	1.1241E+01	MH	7.7149E+00	1.9248E+01	2.7642E+01
ME	0.0000E+00	0.0000E+00	0.0000E+00	M	7.3616E+00	1.4726E+01	1.8372E+01
M	1.8730E+00	2.0898E+00	2.4211E+00	A	4.5152E+00	2.8049E+00	2.5734E+00
A	1.0578E+00	1.0712E+00	1.0712E+00	S	1.1330E+00	1.1533E+00	1.1793E+00
S	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0110E+00	1.0774E+00	1.1232E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	GAME	0.1100E+01	7.8705E-01	7.8604E-01
GAME	9.6770E-01	9.7620E-01	9.7620E-01	U	9.4066E+00	1.4958E+00	1.3119E+00
U	2.5703E+00	1.5701E+00	1.3816E+00				

PI = 4.00E+03 M/SEC				USI = 7.00E+03 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.3067E+01	2.8749E+01	7.2302E+01	P	4.5043E+01	1.9230E+02	3.0106E+02
T	3.5041E+00	6.4265E+00	1.1241E+01	T	7.0473E+00	9.2752E+00	1.6013E+01
MH	3.9243E+00	6.4265E+00	1.1241E+01	MH	7.7149E+00	1.9248E+01	2.7642E+01
ME	0.0000E+00	0.0000E+00	0.0000E+00	M	7.3616E+00	1.4726E+01	1.8372E+01
M	1.8730E+00	2.0898E+00	2.4211E+00	A	4.5152E+00	2.8049E+00	2.5734E+00
A	1.0578E+00	1.0712E+00	1.0712E+00	S	1.1330E+00	1.1533E+00	1.1793E+00
S	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0110E+00	1.0774E+00	1.1232E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	GAME	0.1100E+01	7.8705E-01	7.8604E-01
GAME	9.6770E-01	9.7620E-01	9.7620E-01	U	9.4066E+00	1.4958E+00	1.3119E+00
U	2.5703E+00	1.5701E+00	1.3816E+00				

PI = 2.00E+01 N/SEC				USI = 7.00E+03 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.3067E+01	2.8749E+01	7.2302E+01	P	4.5043E+01	1.9230E+02	3.0106E+02
T	3.5041E+00	6.4265E+00	1.1241E+01	T	7.0473E+00	9.2752E+00	1.6013E+01
MH	3.9243E+00	6.4265E+00	1.1241E+01	MH	7.7149E+00	1.9248E+01	2.7642E+01
ME	0.0000E+00	0.0000E+00	0.0000E+00	M	7.3616E+00	1.4726E+01	1.8372E+01
M	1.8730E+00	2.0898E+00	2.4211E+00	A	4.5152E+00	2.8049E+00	2.5734E+00
A	1.0578E+00	1.0712E+00	1.0712E+00	S	1.1330E+00	1.1533E+00	1.1793E+00
S	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0110E+00	1.0774E+00	1.1232E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	GAME	0.1100E+01	7.8705E-01	7.8604E-01
GAME	9.6770E-01	9.7620E-01	9.7620E-01	U	9.4066E+00	1.4958E+00	1.3119E+00
U	2.5703E+00	1.5701E+00	1.3816E+00				

PI = 4.00E+03 M/SEC				USI = 7.00E+03 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.3067E+01	2.8749E+01	7.2302E+01	P	4.5043E+01	1.9230E+02	3.0106E+02

P1 = 2.00E+01 N/30-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2020E+01	5.7323E+01	1.2300E+02
T	4.9055E+00	6.5913E+00	8.0640E+00
KMU	4.4100E+00	8.4741E+00	1.5022E+01
M	5.1729E+00	7.1239E+00	9.5905E+00
A	2.1962E+00	2.4330E+00	2.5807E+00
S	1.0839E+00	1.0869E+00	1.1042E+00
Z	1.0001E+00	1.0026E+00	1.0223E+00
NAME	9.6730E-01	8.9570E-01	8.1209E-01
U	3.3345E+00	1.6974E+00	1.3800E+00

SPECIES	MOLE FRACTIONS
E-	5.9007E-27
HE	3.4908E-01
HE+	7.4201E-52
HE++	0.
H	1.0410E-04
M+	8.1339E-20
M2	6.4991E-01

P1 = 2.00E+01 N/30-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2170E+01	1.0716E+02	1.9401E+02
T	6.5240E+00	8.1808E+00	9.0900E+00
KMU	4.9170E+00	1.2729E+01	2.0041E+01
M	7.0713E+00	1.0492E+01	1.3704E+01
A	2.4112E+00	2.6023E+00	2.7652E+00
S	1.1093E+00	1.1170E+00	1.1391E+00
Z	1.0030E+00	1.0282E+00	1.0600E+00
NAME	8.8847E-01	8.047E-01	7.8907E-01
U	4.1200E+00	1.5907E+00	1.3309E+00

SPECIES	MOLE FRACTIONS
E-	1.4092E-17
HE	3.4042E-01
HE+	1.4467E-42
HE++	0.
H	5.0050E-03
M+	1.4473E-17
M2	6.4500E-01

P1 = 2.00E+01 N/30-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0049E+01	3.2215E+02	4.8802E+02
T	8.3700E+00	1.0159E+01	1.0892E+01
KMU	6.8253E+00	2.7656E+01	3.7290E+01
M	1.4000E+01	1.9730E+01	2.3531E+01
A	4.6500E+00	3.0259E+00	3.2000E+00
S	1.1640E+00	1.1944E+00	1.2200E+00
Z	1.0047E+00	1.1424E+00	1.1903E+00
NAME	7.8809E-01	7.8507E-01	7.8890E-01
U	5.8899E+00	1.4605E+00	1.3204E+00

SPECIES	MOLE FRACTIONS
E-	3.6423E-13
HE	3.3346E-01
HE+	6.4612E-28
HE++	0.
H	5.4013E-02
M+	3.0423E-13
M2	3.7194E-01

P1 = 2.00E+01 N/30-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8009E+01	4.9936E+02	7.2273E+02
T	8.9007E+00	1.1060E+01	1.1773E+01
KMU	7.9733E+00	3.7024E+01	4.7400E+01
M	1.5023E+01	2.5420E+01	3.0297E+01
A	2.7000E+00	3.2637E+00	3.4700E+00
S	1.1570E+00	1.2405E+00	1.2754E+00
Z	1.0003E+00	1.2195E+00	1.2000E+00
NAME	7.8976E-01	7.8976E-01	7.9576E-01
U	6.7842E+00	1.4613E+00	1.3602E+00

SPECIES	MOLE FRACTIONS
E-	3.6423E-13
HE	3.3346E-01
HE+	1.7297E-25
HE++	0.
H	1.0019E-01
M+	6.5938E-10
M2	3.5259E-01

Table I. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/Sec-M, US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.7724E+01	7.2624E+02	1.0224E+03
T	9.5065E+00	1.1919E+01	1.2729E+01
RMU	9.0670E+00	4.6607E+01	5.4013E+01
M	1.8378E+01	3.1779E+01	3.7462E+01
A	2.8980E+00	3.5245E+00	3.7719E+00
S	1.2324E+00	1.2906E+00	1.3257E+00
Z	1.1346E+00	1.3074E+00	1.3846E+00
GAME	7.7917E-01	7.9720E-01	8.0722E-01
U	7.6596E+00	1.4923E+00	1.4193E+00

P1 = 2.00E+01 N/Sec-M, US1 = 1.30E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0923E+02	1.6667E+03	2.4114E+03
T	1.0099E+01	1.5887E+01	2.2737E+01
RMU	1.1870E+01	6.5561E+01	6.4942E+01
M	3.0517E+01	5.4633E+01	6.6717E+01
A	3.3409E+00	4.8043E+00	6.4484E+00
S	1.5738E+00	1.4535E+00	1.5106E+00
Z	1.3080E+00	1.6002E+00	1.6488E+00
GAME	7.8668E-01	9.0789E-01	1.1096E+00
U	1.0260E+01	1.8580E+00	2.3187E+00

SPECIES ----- MOLE FRACTIONS -----			
Species	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
CH	2.0503E-11	3.7592E-09	1.5388E-08
HE	3.0863E-01	2.6771E-01	2.5278E-01
HE+	1.1905E-29	1.0842E-23	4.0443E-24
HE++	0.	4.2401E-08	2.8942E-04
H	4.3038E-01	4.7022E-01	5.5556E-01
H+	4.4284E-11	3.7592E-09	1.5388E-08
H2	4.5498E-01	2.6207E-01	1.9166E-01

PI = 2.00E+01 N/50-M, USI= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1459E+02	1.0010E+03	1.3800E+03
T	9.9785E+00	1.2849E+01	1.3919E+01
KMO	1.0095E+01	5.5493E+01	6.6802E+01
M	2.2077E+01	3.8780E+01	4.5432E+01
A	3.0347E+01	3.8209E+00	4.1502E+00
S	1.2702E+00	1.3438E+00	1.3875E+00
Z	1.1802E+00	1.4039E+00	1.4922E+00
GAME	7.8006E-01	8.0933E-01	8.2971E-01
U	8.2406E+00	1.5541E+00	1.5101E+00

SPECIES	MOLE FRACTIONS
L-	8.3803E-11
HE	2.9550E-01
HE+	2.5402E-28
HE++	U.
H	3.1396E-01
H+	8.3803E-11
H2	3.9008E-01

PI = 2.00E+01 N/50-M, USI= 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4334E+02	1.3201E+03	1.8317E+03
T	1.0437E+01	1.4001E+01	1.5908E+01
KMO	1.1037E+01	6.2619E+01	7.1679E+01
M	2.6124E+01	4.8420E+01	5.4688E+01
A	3.1881E+00	4.1908E+00	4.8102E+00
S	1.3109E+00	1.3988E+00	1.4478E+00
Z	1.2444E+00	1.5057E+00	1.5991E+00
GAME	7.8260E-01	8.3312E-01	9.0773E-01
U	9.4046E+00	1.6580E+00	1.7054E+00

SPECIES	MOLE FRACTIONS
L-	2.8258E-10
HE	2.8127E-01
HE+	3.8862E-27
HE++	U.
H	3.9275E-01
H+	2.8258E-10
H2	3.2000E-01

PI = 2.00E+01 N/50-M, USI= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9710E+02	1.9879E+03	3.0789E+03
T	1.1389E+01	2.0254E+01	3.1270E+01
KMO	1.2571E+01	5.9072E+01	5.9402E+01
M	3.5262E+01	6.3176E+01	8.0182E+01
A	3.5232E+00	6.0388E+00	7.1914E+00
S	1.3908E+00	1.5022E+00	1.5504E+00
Z	1.3707E+00	1.6448E+00	1.6800E+00
GAME	7.9271E-01	1.0946E+00	9.8234E-01
U	1.1108E+01	2.3411E+00	2.9807E+00

SPECIES	MOLE FRACTIONS
L-	2.0417E-09
HE	2.0422E-01
HE+	1.0958E-24
HE++	4.0361E-30
H	5.4729E-01
H+	2.0417E-09
H2	1.9649E-01

PI = 2.00E+01 N/50-M, USI= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4262E+02	2.2768E+03	3.7224E+03
T	1.1942E+01	2.6373E+01	3.6572E+01
KMO	1.3108E+01	5.2278E+01	6.0291E+01
M	4.0351E+01	7.2002E+01	9.2809E+01
A	3.7200E+00	6.8402E+00	7.4378E+00
S	1.4453E+00	1.5407E+00	1.5898E+00
Z	1.4459E+00	1.6514E+00	1.6884E+00
GAME	8.0227E-01	1.0743E+00	8.9642E-01
U	1.1942E+01	2.9929E+00	3.3178E+00

SPECIES	MOLE FRACTIONS
L-	7.9901E-09
HE	2.4144E-01
HE+	1.3573E-23
HE++	9.4778E-28
H	6.2025E-01
H+	7.9901E-09
H2	1.3824E-01

Table I. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/30-M, US1 = 1.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5852E+02	2.5762E+03	4.3232E+03
T	1.2042E+01	3.1785E+01	4.0201E+01
AMU	1.2412E+01	4.8739E+01	6.2394E+01
M	4.2744E+01	8.1439E+01	1.0540E+02
A	3.9772E+00	7.1347E+00	7.7422E+00
S	1.4929E+00	1.5130E+00	1.6202E+00
Z	1.2244E+00	1.6630E+00	1.7254E+00
GAME	8.2602E+01	9.6305E+01	8.6412E+01
U	1.2702E+01	3.5083E+00	3.4910E+00
SPECIES			
	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	2.8734E-08	7.9378E-03	4.4031E-02
He	2.6454E-01	2.1047E-01	2.0210E-01
He+	5.1240E-22	6.1800E-08	8.0382E-06
He++	1.7001E-42	7.2792E-31	1.5407E-23
H	5.8832E-01	7.7352E-01	7.0908E-01
H+	2.8734E-08	7.9377E-03	4.4044E-02
H2	8.2130E-02	1.3479E-04	5.2875E-05

P1 = 2.00E+01 N/30-M, US1 = 1.90E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5596E+02	2.8285E+03	4.5522E+03
T	2.0592E+01	4.0812E+01	4.6442E+01
AMU	1.0400E+01	3.9486E+01	5.2710E+01
M	6.3928E+01	1.1224E+02	1.4102E+02
A	6.1650E+00	7.7932E+00	8.5047E+00
S	1.6215E+00	1.6712E+00	1.7202E+00
Z	1.6444E+00	1.7552E+00	1.8587E+00
GAME	1.1190E+00	8.4784E-01	8.3792E-01
U	1.4813E+01	3.9288E+00	3.6715E+00
SPECIES			
	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	1.4277E-04	5.9980E-02	1.1224E-01
He	2.1220E-01	1.9939E-01	1.8624E-01
He+	7.3767E-13	9.8769E-06	7.2052E-05
He++	3.4072E-49	6.4814E-23	1.1224E-19
H	7.8702E-01	6.8062E-01	5.8710E-01
H+	1.4277E-04	5.9910E-02	1.1224E-01
H2	4.9440E-04	2.9514E-05	1.9620E-05

P1 = 2.00E+01 N/50-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9130E+02	2.0600E+03	4.0100E+03
T	1.3743E+01	3.5825E+01	4.2940E+01
RMU	1.3207E+01	4.7364E+01	6.3242E+01
M	5.2552E+01	9.1609E+01	1.1813E+02
A	4.3733E+01	7.3566E+01	8.0440E+01
S	1.5402E+00	1.6033E+01	1.6510E+00
Z	1.5402E+00	1.6849E+00	1.7640E+00
GAME	8.7172E+01	8.9607E+01	9.5040E+01
U	1.3549E+01	3.7992E+00	3.6030E+00

SPECIES	MOLE FRACTIONS
C-	1.0239E-07
HE	2.1923E-01
ME+	3.0249E-20
ME++	7.7200E-76
M	7.4713E-01
M+	1.0539E-07
M2	3.5610E-02

P1 = 2.00E+01 N/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8940E+02	2.0109E+03	4.4177E+03
T	2.5152E+01	4.2629E+01	4.7424E+01
RMU	9.3005E+00	3.6720E+01	4.8464E+01
M	7.0565E+01	1.2337E+02	1.5302E+02
A	6.6047E+00	8.0140E+00	8.7263E+00
S	1.6510E+00	1.7041E+00	1.7540E+00
Z	1.6527E+00	1.7957E+00	1.9064E+00
GAME	1.0493E+00	8.3916E-01	8.3537E-01
U	1.5398E+01	3.9241E+00	3.6844E+00

SPECIES	MOLE FRACTIONS
C-	1.7235E-03
HE	4.1177E-01
ME+	3.9113E-16
ME++	2.2198E-39
M	7.4402E-01
M+	1.7235E-03
M2	1.0196E-04

P1 = 2.00E+01 N/50-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2422E+02	2.9383E+03	4.8592E+03
T	1.0230E+01	3.0732E+01	4.5020E+01
RMU	1.2160E+01	4.4138E+01	5.9500E+01
M	5.7012E+01	1.0197E+02	1.3029E+02
A	5.2013E+00	7.5832E+00	8.2950E+00
S	1.5045E+00	1.6562E+00	1.6847E+00
Z	1.0416E+00	1.7188E+00	1.8139E+00
GAME	1.0405E+00	8.6380E-01	8.4261E-01
U	1.4237E+01	3.9223E+00	3.6504E+00

SPECIES	MOLE FRACTIONS
C-	3.0029E-06
HE	2.1320E-01
ME+	7.1407E-17
ME++	4.4044E-64
M	7.8169E-01
M+	3.6629E-06
M2	5.1026E-03

P1 = 2.00E+01 N/50-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2627E+02	2.9443E+03	4.5441E+03
T	2.0947E+01	4.4429E+01	4.9372E+01
RMU	8.0527E+00	3.6000E+01	4.8902E+01
M	7.7591E+01	1.3495E+02	1.6840E+02
A	6.7047E+00	8.2617E+00	8.9844E+00
S	1.6702E+00	1.7348E+00	1.7808E+00
Z	1.6649E+00	1.8408E+00	1.9503E+00
GAME	4.4547E-01	8.3457E-01	8.3450E-01
U	1.6050E+01	3.9511E+00	3.7222E+00

SPECIES	MOLE FRACTIONS
C-	1.7764E-03
HE	2.1040E-01
ME+	1.6244E-08
ME++	1.0537E-33
M	7.7593E-01
M+	1.7764E-01
M2	4.0218E-05

Table I. - Continued

$$p_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M, US1 = 2.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6603E+02	3.2058E+03	4.8793E+03
T	3.1019E+01	4.627E+01	5.1104E+01
MHU	8.7204E+00	3.6694E+01	4.7353E+01
M	8.5020E+01	1.4800E+02	1.8194E+02
A	6.0000E+00	8.5338E+00	9.2703E+00
S	1.7020E+00	1.7642E+00	1.8103E+00
Z	1.0812E+00	1.8906E+00	2.0103E+00
GAME	8.8502E-01	8.3255E-01	8.3510E-01
U	1.6700E+01	3.9942E+00	3.7931E+00
P1 = 2.00E+01 N/50-M, US1 = 4.50E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0024E+02	4.4598E+03	6.5877E+03
T	3.7495E+01	5.1799E+01	5.6819E+01
MHU	7.1502E+00	4.1761E+01	5.2403E+01
M	1.0909E+02	1.9270E+02	2.3302E+02
A	7.4113E+00	9.4399E+00	1.0289E+01
S	1.7720E+00	1.8519E+00	1.9129E+00
Z	1.7650E+00	2.0617E+00	2.2122E+00
GAME	8.2920E-01	8.3444E-01	8.4144E-01
U	1.9195E+01	4.2124E+00	4.0611E+00
SPECIES MOLE FRACTIONS			
SP-CIES			
CE	6.5611E-02	1.9949E-01	2.5444E-01
HE	1.9820E-01	1.6936E-01	1.2694E-01
HE+	4.3142E-06	4.0623E-04	1.2774E-03
HE++	1.0147E-24	5.1782E-17	3.5328E-12
H	6.7057E-01	4.3125E-01	3.3660E-01
H+	6.5006E-02	1.9929E-01	2.5290E-01
H2	9.4106E-06	6.6021E-06	4.1303E-06

PI = 2.00E+01 N/SU-M, US1 = 2.60E+04 P/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.5754E+02	4.9784E+03	7.3062E+03
T	3.8953E+01	5.3639E+01	5.8850E+01
RHO	9.3825E+00	4.3696E+01	5.4387E+01
M	1.1857E+02	2.0912E+02	2.5307E+02
A	7.6003E+00	9.7625E+00	1.0657E+01
S	1.7900E+00	1.8815E+00	1.9450E+00
Z	1.4001E+00	2.1241E+00	2.2834E+00
GAME	8.2424E+01	8.3651E+01	8.4444E+01
U	2.0021E+01	4.3034E+00	4.1718E+00

SPECIES	MOLE FRACTIONS
L-	2.2321E-01
HE	1.6413E-01
ME+	6.4623E-04
ME++	2.9005E-16
H	3.8945E-01
H+	2.2256E-01
H2	5.2473E-06
	2.7750E-01
	1.5140E-01
	1.9780E-03
	1.9850E-14
	2.9353E-01
	2.7500E-01
	3.1142E-06

PI = 2.00E+01 N/SU-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.1107E+02	5.5401E+03	8.0504E+03
T	4.0255E+01	5.5494E+01	6.0954E+01
RHO	9.6181E+00	4.5614E+01	5.6335E+01
M	1.2780E+02	2.2625E+02	2.7321E+02
A	7.7912E+00	1.0095E+01	1.1034E+01
S	1.8195E+00	1.9114E+00	1.9775E+00
Z	1.8302E+00	2.1886E+00	2.3506E+00
GAME	8.2109E+01	8.3900E+01	8.4748E+01
U	2.0852E+01	4.3976E+00	4.2913E+00

SPECIES	MOLE FRACTIONS
L-	2.4611E-01
HE	1.5891E-01
ME+	1.0042E-03
ME++	1.4849E-15
H	3.4886E-01
H+	2.4511E-01
H2	4.1201E-06
	2.9907E-01
	1.4552E-01
	3.0340E-03
	9.5301E-14
	2.5314E-01
	2.9665E-01
	2.2972E-06

PI = 2.00E+01 N/SU-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1004E+02	3.5652E+03	5.3504E+03
T	3.4049E+01	4.8115E+01	5.2939E+01
RHO	8.7427E+00	3.8106E+01	4.8606E+01
M	9.2057E+01	1.6206E+02	1.9814E+02
A	7.0453E+00	8.8237E+00	9.5959E+00
S	1.7201E+00	1.7933E+00	1.8452E+00
Z	1.7050E+00	1.9445E+00	2.0702E+00
GAME	8.5609E+01	8.3218E+01	8.3602E+01
U	1.7504E+01	4.0564E+00	3.8675E+00

SPECIES	MOLE FRACTIONS
L-	1.5145E-01
HE	1.7985E-01
ME+	1.4514E-04
ME++	1.1345E-18
H	5.1724E-01
H+	1.5131E-01
H2	1.0251E-05
	2.0600E-01
	1.6790E-01
	5.0957E-04
	1.3431E-16
	4.1997E-01
	2.0702E-01
	6.9002E-06

PI = 2.00E+01 N/SU-M, US1 = 2.40E+04 P/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5723E+02	3.9869E+03	5.9342E+03
T	3.5895E+01	4.9962E+01	5.4841E+01
RHO	8.9241E+00	3.9866E+01	5.0404E+01
M	1.0107E+02	1.7700E+02	2.1500E+02
A	7.2255E+00	9.1269E+00	9.9294E+00
S	1.7494E+00	1.8225E+00	1.8807E+00
Z	1.7342E+00	2.0017E+00	2.1433E+00
GAME	8.3806E+01	8.3253E+01	8.3877E+01
U	1.8370E+01	4.1298E+00	3.9594E+00

SPECIES	MOLE FRACTIONS
L-	1.7572E-01
HE	1.7460E-01
ME+	2.4766E-04
ME++	8.2280E-18
H	4.7396E-01
H+	1.7547E-01
H2	8.2390E-06
	2.3042E-01
	1.6240E-01
	8.1112E-04
	7.4909E-16
	3.7707E-01
	2.2941E-01
	5.3690E-06

Table I. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M, US1= 2.80E+04 M/SLC				P1 = 2.00E+01 N/50-M, US1= 3.20E+04 M/SLC			
MOVING SHOCK		STANDING SHOCK		MOVING SHOCK		STANDING SHOCK	
REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK	
P	T	RNU	M	P	T	RNU	M
7.6075E+02	4.1645E+01	5.8553E+00	1.3750E+02	1.0104E+03	4.5904E+01	1.0741E+01	1.7458E+02
7.9840E+00	1.8434E+00	1.8749E+00	8.1932E-01	8.7747E+00	1.9417E+00	2.0455E+00	8.1942E-01
2.4295E+00	2.4295E+00	2.4295E+00	2.4295E+00	2.5282E+00	2.5282E+00	2.5282E+00	2.5282E+00
4.4142E+00	4.4142E+00	4.4142E+00	4.4142E+00	5.0065E+00	5.0065E+00	5.0065E+00	5.0065E+00
MOLE FRACTIONS				MOLE FRACTIONS			
SPECIES				SPECIES			
E-	1.1996E-01	2.6826E-01	3.2040E-01	E-	1.9332E-01	3.4736E-01	3.5300E-01
HE	1.8605E-01	1.5369E-01	1.3943E-01	HE	1.7097E-01	1.3105E-01	1.0117E-01
HE+	2.6086E-05	1.5320E-03	4.6146E-03	HE+	1.2000E-04	7.3834E-03	2.1440E-02
HE++	7.6684E-22	7.0672E-15	4.4301E-13	HE++	3.4049E-19	2.2653E-12	1.4187E-10
H	5.7339E-01	3.0979E-01	4.1800E-01	H	7.4233E-01	1.7422E-01	1.0508E-01
H+	1.1995E-01	2.6673E-01	3.1034E-01	H+	1.9321E-01	3.3998E-01	3.7247E-01
H2	5.2540E-06	3.1849E-06	1.6510E-06	H2	2.5700E-06	9.2743E-07	3.4672E-07

P1 = 2.0UE+01 N/5U-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	0.2649E+02	6.7729E+03	9.8220E+03
T	4.2670E+01	5.9289E+01	6.5420E+01
RHU	1.0000E+01	4.9187E+01	5.9940E+01
M	1.4749E+02	2.6249E+02	3.1611E+02
A	8.1700E+00	1.0709E+01	1.1820E+01
S	1.8675E+00	1.9721E+00	2.0434E+00
Z	1.9152E+00	2.3224E+00	2.5042E+00
NAME	0.1850E-01	8.4474E-01	8.5275E-01
U	2.2515E+01	4.6180E+00	4.5540E+00

SPECIES	MOLE FRACTIONS
E-	1.5046E-01
HE	1.4640E-01
ME+	2.3041E-03
HE++	3.1600E-14
M	2.7252E-01
H+	2.8724E-01
H2	2.4170E-06

P1 = 2.00E+01 N/5U-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.8445E+02	7.4430E+03	1.0770E+04
T	4.3000E+01	6.1263E+01	6.7820E+01
RHU	1.0310E+01	5.0810E+01	6.1592E+01
M	1.5784E+02	2.8162E+02	3.3890E+02
A	8.3762E+00	1.1143E+01	1.2242E+01
S	1.8919E+00	2.0028E+00	2.0707E+00
Z	1.9571E+00	2.3911E+00	2.5704E+00
NAME	8.1834E-01	8.4768E-01	8.5424E-01
U	2.3349E+01	4.7423E+00	4.6970E+00

SPECIES	MOLE FRACTIONS
E-	1.5690E-01
HE	1.4294E-01
ME+	3.4329E-03
HE++	1.3674E-13
M	2.3718E-01
H+	3.0650E-01
H2	1.7946E-06

P1 = 2.00E+01 N/5U-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1443E+03	1.0415E+04	1.5012E+04
T	4.0113E+01	6.9855E+01	7.8200E+01
RHU	1.1110E+01	5.9961E+01	6.7099E+01
M	4.0271E+02	3.6446E+02	4.3801E+02
A	9.1570E+00	1.2666E+01	1.3800E+01
S	1.9920E+00	2.1267E+00	2.2102E+00
Z	2.1392E+00	2.8642E+00	2.8600E+00
NAME	8.2100E-01	8.5302E-01	8.5400E-01
U	2.6000E+01	5.2992E+00	5.2940E+00

SPECIES	MOLE FRACTIONS
E-	2.4079E-01
HE	1.6332E-01
ME+	1.5197E-02
HE++	3.3444E-11
M	3.7910E-01
H+	3.6548E-01
H2	1.7082E-06

P1 = 2.00E+01 N/5U-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2802E+03	1.2054E+04	1.7372E+04
T	5.0239E+01	7.4550E+01	8.4020E+01
RHU	1.1440E+01	5.7874E+01	6.5037E+01
M	4.2722E+02	4.0967E+02	4.9249E+02
A	5.0341E+00	1.3327E+01	1.4747E+01
S	2.0446E+00	2.1889E+00	2.2704E+00
Z	4.2388E+00	2.7935E+00	2.5428E+00
NAME	8.2537E-01	8.5283E-01	8.5490E-01
U	2.8513E+01	5.5976E+00	5.6220E+00

SPECIES	MOLE FRACTIONS
E-	2.6287E-01
HE	4.0935E-01
ME+	9.7032E-02
HE++	2.8258E-02
M	3.9194E-10
H+	4.5217E-02
H2	3.8109E-01

$$p_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M, US1 = 3.80E+04 P/SEC			
	MUING SHUCK	STANDING SHOCK	REFLECTED SHUCK
P	1.4304E+03	1.3771E+04	1.9840E+04
T	5.4945E+01	7.9457E+01	9.1432E+01
RNU	1.1702E+01	5.9436E+01	6.9827E+01
M	2.5317E+02	5.5110E+02	5.5110E+02
H	1.0093E+01	1.4079E+01	1.5949E+01
S	2.0476E+00	2.2505E+00	2.3440E+00
Z	2.3414E+00	2.9160E+00	3.1107E+00
LAME	8.2946E-01	8.5548E-01	8.9537E-01
U	2.9949E+01	5.8989E+00	6.0274E+00
SPECIES ----- POLE FRACTIONS -----			
E-	4.9529E-01	4.3416E-01	4.7099E-01
ME	1.4852E-01	7.4159E-02	3.1004E-02
ME+	9.5943E-04	5.5867E-02	8.1223E-02
ME++	4.2928E-10	3.5159E-09	1.7012E-07
M	2.6090E-01	5.7510E-02	2.7133E-02
M+	2.9433E-01	3.8829E-01	3.8974E-01
M2	7.6239E-07	8.6743E-08	1.9107E-06

P2 = 2.00E+01 N/50-M, US1 = 4.40E+04 P/SEC			
	MUING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	1.5314E+03	1.8833E+04	2.8963E+04
T	1.0026E+01	1.0153E+02	1.5067E+02
RNU	1.2093E+01	5.7430E+01	2.8134E+01
M	3.3942E+02	6.1310E+02	7.7610E+02
A	1.1623E+01	1.7926E+01	2.2207E+01
S	2.6259E+00	2.4325E+00	2.5392E+00
Z	2.6807E+00	3.2299E+00	3.3004E+00
LAME	6.4590E-01	9.7988E-01	9.8979E-01
U	5.4760E+01	7.3301E+00	9.1256E+00
SPECIES ----- POLE FRACTIONS -----			
E-	5.7480E-01	4.8914E-01	5.0447E-01
ME	1.4206E-01	1.0167E-02	4.7770E-04
ME+	6.5187E-02	9.8194E-02	1.0103E-01
ME++	3.6280E-13	2.8611E-06	4.2654E-03
M	1.1520E-01	1.1549E-02	1.2899E-03
M+	3.7334E-01	3.9094E-01	3.9107E-01
M2	1.1005E-01	2.5371E-09	2.0804E-11

PI = 2.00E+01 N/30-M, US1= 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5339E+03	1.5526E+04	2.2647E+04
T	5.4735E+01	8.4882E+01	1.0294E+02
RMU	1.1899E+01	6.0299E+01	6.8147E+01
H	2.8044E+02	5.0738E+02	6.1652E+02
A	1.0574E+01	1.4954E+01	1.8038E+01
S	2.1512E+00	2.3120E+00	2.4118E+00
Z	2.4473E+00	3.0335E+00	3.2261E+00
GAME	8.3524E-01	8.6847E-01	5.7994E-01
U	3.1574E+01	6.2330E+00	6.8844E+00

SPECIES	MOLE FRACTIONS
C-	3.2250E-01
HE	1.4123E-01
ME+	1.7854E-03
HE++	3.9626E-15
H	2.0717E-01
M+	3.2402E-01
M2	4.4013E-07

PI = 2.00E+01 N/30-M, US1= 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7591E+03	1.7249E+04	2.5763E+04
T	2.7245E+01	9.1662E+01	1.2543E+02
RMU	1.2029E+01	5.9875E+01	6.2506E+01
H	3.0917E+02	5.9949E+02	6.9427E+02
A	1.1091E+01	1.6126E+01	2.1176E+01
S	2.2054E+00	2.3735E+00	2.4812E+00
Z	2.5540E+00	3.1429E+00	3.2832E+00
GAME	8.4109E-01	9.0263E-01	1.0809E+00
U	3.3189E+01	6.6741E+00	7.9031E+00

SPECIES	MOLE FRACTIONS
C-	3.5411E-01
HE	1.3363E-01
ME+	3.3743E-03
HE++	3.7663E-14
H	1.5819E-01
M+	3.2074E-01
M2	2.3975E-07

PI = 2.00E+01 N/30-M, US1= 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1112E+03	2.0197E+04	3.1862E+04
T	6.3104E+01	1.1635E+02	1.6630E+02
RMU	1.2111E+01	5.2988E+01	5.7163E+01
H	3.7070E+02	6.6763E+02	8.5225E+02
A	1.2149E+01	2.0241E+01	2.2968E+01
S	2.3139E+00	2.4859E+00	2.5862E+00
Z	2.7622E+00	3.2760E+00	3.3507E+00
GAME	8.4076E-01	1.0749E+00	9.0547E-01
U	3.6372E+01	8.3169E+00	9.7823E+00

SPECIES	MOLE FRACTIONS
C-	4.0268E-01
HE	1.1411E-01
ME+	1.4592E-02
HE++	3.9936E-12
H	8.0527E-02
M+	3.9009E-01
M2	5.2942E-08

PI = 2.00E+01 N/30-M, US1= 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2988E+03	2.1445E+04	3.4701E+04
T	6.6379E+01	1.3458E+02	1.7792E+02
RMU	1.2118E+01	4.8375E+01	5.7276E+01
H	4.0555E+02	7.2331E+02	9.2784E+02
A	1.2648E+01	2.1808E+01	2.3125E+01
S	2.3677E+00	2.5333E+00	2.6297E+00
Z	2.8578E+00	3.2940E+00	3.4024E+00
GAME	8.4326E-01	1.0728E+00	8.8269E-01
U	3.7555E+01	9.5098E+00	1.0182E+01

SPECIES	MOLE FRACTIONS
C-	4.2263E-01
HE	9.9537E-02
ME+	2.2935E-02
HE++	3.7422E-11
H	5.1955E-02
M+	3.9970E-01
M2	2.2959E-08

Table I. - Continued

$$p_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M, US1 = 5.00E+04 M/SEC				P1 = 2.00E+01 N/50-M, US1 = 5.60E+04 M/SEC			

P1 = 2.00E+01 N/50-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0903E+03	2.4627E+04	4.0750E+04
T	7.5217E+01	1.6374E+02	1.9907E+02
RMU	1.2195E+01	4.4873E+01	5.7805E+01
M	4.7340E+02	9.4471E+02	1.0874E+03
A	1.3701E+01	2.2244E+01	2.5200E+01
S	2.9730E+00	2.6163E+00	2.7131E+00
Z	3.0343E+00	3.3519E+00	3.5234E+00
NAME	8.4491E-01	9.0156E-01	9.0248E-01
U	4.1127E+01	1.1126E+01	1.0931E+01

SPECIES	MOLE FRACTIONS
E-	5.0774E-01
HE	2.1986E-04
ME	8.7630E-02
HE+	1.6369E-02
M	6.8358E-04
M+	3.8718E-01
M2	4.1634E-12

P1 = 2.00E+01 N/50-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9084E+03	2.6475E+04	4.3810E+04
T	7.7137E+01	1.7357E+02	2.1601E+02
RMU	1.2095E+01	4.4873E+01	5.7221E+01
M	5.4090E+02	9.1073E+02	1.1755E+03
A	1.4378E+01	2.2791E+01	2.6800E+01
S	2.5401E+00	2.6548E+00	2.7550E+00
Z	3.1174E+00	3.3793E+00	3.5776E+00
NAME	8.5972E-01	8.8038E-01	9.4427E-01
U	4.2689E+01	1.1498E+01	1.1445E+01

SPECIES	MOLE FRACTIONS
E-	5.1460E-01
HE	1.4818E-04
ME	7.2943E-02
HE+	2.9872E-02
M	5.1442E-04
M+	3.8192E-01
M2	2.4365E-12

P1 = 2.00E+01 N/50-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5300E+03	2.9028E+04	4.8461E+04
T	6.9499E+01	1.9123E+02	2.6246E+02
RMU	1.1960E+01	4.3325E+01	5.0730E+01
M	5.8820E+02	1.0468E+03	1.3691E+03
A	1.6807E+01	2.4411E+01	3.2360E+01
S	2.6204E+00	2.7349E+00	2.8440E+00
Z	3.2535E+00	3.5036E+00	3.6340E+00
NAME	9.7472E-01	8.8938E-01	1.0960E+00
U	4.5025E+01	1.2067E+01	1.3340E+01

SPECIES	MOLE FRACTIONS
E-	4.9205E-01
HE	8.0096E-03
ME	4.1317E-02
HE+	5.8517E-02
M	3.3434E-04
M+	3.7071E-01
M2	9.6441E-13

P1 = 2.00E+01 N/50-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2490E+03	2.8946E+04	4.8857E+04
T	1.0062E+02	2.0053E+02	4.9570E+02
RMU	1.0739E+01	4.0707E+01	4.5299E+01
M	6.2800E+02	1.1134E+03	1.4735E+03
A	1.4831E+01	2.5514E+01	3.4860E+01
S	2.6710E+00	2.7780E+00	2.8899E+00
Z	3.2847E+00	3.5522E+00	3.6405E+00
NAME	1.0751E+00	9.1389E-01	1.1271E+00
U	4.6893E+01	1.2345E+01	1.4505E+01

SPECIES	MOLE FRACTIONS
E-	4.9766E-01
HE	4.2965E-03
ME	1.0425E-02
HE+	1.2051E-02
M	2.6091E-04
M+	3.5359E-01
M2	5.4518E-13

Table I. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P ₁ = 2.00E+01 N/50-M. US1= 6.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.757E+03	2.8334E+04	4.8204E+04
T	1.151E+02	2.1134E+02	3.2952E+02
AMU	9.901E+00	3.7320E+01	4.0042E+01
M	6.703E+02	1.1785E+03	1.576E+03
A	4.0724E+01	2.6951E+01	3.6930E+01
S	2.713E+00	2.8209E+00	2.9325E+00
Z	3.2950E+00	3.5924E+00	3.6482E+00
UAME	1.1024E+00	9.5675E-01	1.1323E+00
U	4.8044E+01	1.2742E+01	1.5801E+01
SPECIES ----- POLE FRACTIONS -----			
E-	4.9956E-01	5.4070E-01	5.4777E-01
HE	5.7201E-04	1.6068E-03	1.3233E-03
HE+	1.0530E-01	1.5798E-02	3.5549E-04
HE++	2.9940E-04	8.1613E-02	9.5575E-02
M	9.9954E-04	1.9537E-04	4.4739E-05
M1	9.9950E-01	3.6168E-01	3.5040E-01
M2	2.2188E-12	2.7602E-13	1.3730E-14

P ₁ = 2.00E+01 N/50-M. US1= 6.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4097E+03	2.9640E+04	5.3972E+04
T	1.4770E+02	2.6799E+02	4.5242E+02
AMU	9.0165E+00	3.0344E+01	3.2672E+01
M	8.0494E+02	1.3906E+03	1.9374E+03
A	2.0873E+01	3.3026E+01	4.3364E+01
S	2.8150E+00	2.9262E+00	3.0324E+00
Z	3.2204E+00	3.6448E+00	3.6547E+00
UAME	8.7809E-01	1.1166E+00	1.1387E+00
U	5.2107E+01	1.5498E+01	1.9871E+01
SPECIES ----- POLE FRACTIONS -----			
E-	5.0841E-01	5.4730E-01	5.3791E-01
HE	7.3042E-05	6.5911E-07	5.8149E-09
HE+	8.7100E-02	1.3676E-03	5.5116E-05
HE++	1.7105E-02	9.4660E-02	9.2842E-02
M	2.2073E-04	6.6738E-05	1.4790E-05
M1	3.8710E-01	3.5661E-01	3.5017E-01
M2	1.0044E-13	2.4246E-14	1.1977E-15

PI = 2.00E+01 N/50-M, US1= 7.00E+04 M/SEC

	MUJING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.7590E+03	3.0982E+04	5.8002E+04
T	1.5422E+02	2.9337E+02	4.9891E+02
RMU	9.0540E+00	2.8952E+01	3.1980E+01
M	9.5250E+02	1.4681E+03	2.0762E+03
A	4.1432E+01	3.4782E+01	4.5540E+01
S	2.8400E+00	2.9542E+00	3.0582E+00
Z	3.3542E+00	3.6470E+00	3.8490E+00
GAME	6.6150E+01	1.1305E+00	1.1300E+00
U	5.5072E+01	1.6772E+01	2.1310E+01

SPECIES	MOLE FRACTIONS
C-	5.1300E-01
HE	5.1927E-05
HE+	7.5003E-02
HE++	4.7983E-02
H	1.0001E-04
H+	3.8203E-01
H2	9.0102E-14
	1.1205E-14

PI = 2.00E+01 N/50-M, US1= 6.60E+04 M/SEC

	MUJING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9700E+03	2.8142E+04	4.8570E+04
T	1.2892E+02	2.2560E+02	3.6700E+02
RMU	9.3393E+00	3.4445E+01	3.6202E+01
M	7.1324E+02	1.2457E+03	1.6800E+03
A	2.0000E+01	2.8854E+01	3.4032E+01
S	2.7484E+00	2.8598E+00	2.9710E+00
Z	3.3040E+00	3.6211E+00	3.6930E+00
GAME	1.9214E+00	1.0191E+00	1.1370E+00
U	4.9252E+01	1.3334E+01	1.7070E+01

SPECIES	MOLE FRACTIONS
C-	5.4434E-01
HE	6.3284E-06
HE+	7.8270E-03
HE++	8.4822E-02
H	1.4077E-04
H+	3.5887E-01
H2	1.2943E-13
	5.3150E-13

PI = 2.00E+01 N/50-M, US1= 6.60E+04 M/SEC

	MUJING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2194E+03	2.8597E+04	5.0570E+04
T	1.3774E+02	2.4537E+02	4.0740E+02
RMU	9.0700E+00	3.2037E+01	3.4620E+01
M	7.5000E+02	1.3162E+03	1.8052E+03
A	2.0724E+01	3.1087E+01	4.1130E+01
S	2.7426E+00	2.8960E+00	3.0022E+00
Z	3.3250E+00	3.6378E+00	3.6490E+00
GAME	9.2430E-01	1.0826E+00	1.1300E+00
U	5.0010E+01	1.4323E+01	1.8300E+01

SPECIES	MOLE FRACTIONS
C-	5.4037E-01
HE	1.1105E-04
HE+	9.7242E-02
HE++	9.2968E-02
H	9.6127E-05
H+	3.5726E-01
H2	5.4561E-14
	2.4041E-13

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/Sec-M, US1= 4.00E+03 M/SEC				P1 = 5.00E+01 N/Sec-M, US1= 7.00E+03 M/SEC			

PI = 5.00E+01 N/SC-M. USI = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2027E+01	5.6916E+01	1.2455E+02
T	4.9864E+00	6.6218E+00	8.2808E+00
AMU	4.4170E+00	8.5801E+00	1.4704E+01
M	5.1728E+00	7.1088E+00	1.0024E+01
A	2.1977E+00	2.4587E+00	2.6359E+00
S	1.0806E+00	1.0902E+00	1.1000E+00
Z	1.0000E+00	1.0018E+00	1.0109E+00
GAME	9.6856E-01	9.1132E-01	8.2349E-01
U	3.3343E+00	1.7155E+00	1.4228E+00

SPECIES	MOLE FRACTIONS
E-	1.5703E-27
HE	3.4999E-01
HE+	1.1876E-51
HE++	0.
H	0.0083E-05
H+	8.1341E-20
H2	6.4999E-01

PI = 5.00E+01 N/SC-M. USI = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2116E+01	1.0458E+02	1.9342E+02
T	6.5680E+00	8.3772E+00	9.4300E+00
AMU	4.8794E+00	1.2198E+01	1.9372E+01
M	7.0673E+00	1.0432E+01	1.3760E+01
A	2.4404E+00	2.6439E+00	2.8203E+00
S	1.1135E+00	1.1214E+00	1.1431E+00
Z	1.0021E+00	1.0233E+00	1.0580E+00
GAME	9.0458E-01	8.1535E-01	7.9601E-01
U	4.1115E+00	1.6436E+00	1.3855E+00

SPECIES	MOLE FRACTIONS
E-	1.0450E-17
HE	3.4520E-01
HE+	2.0352E-42
HE++	0.
H	4.2199E-03
H+	1.0542E-17
H2	6.4652E-01

PI = 5.00E+01 N/SC-M. USI = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2027E+01	5.6916E+01	1.2455E+02
T	4.9864E+00	6.6218E+00	8.2808E+00
AMU	4.4170E+00	8.5801E+00	1.4704E+01
M	5.1728E+00	7.1088E+00	1.0024E+01
A	2.1977E+00	2.4587E+00	2.6359E+00
S	1.0806E+00	1.0902E+00	1.1000E+00
Z	1.0000E+00	1.0018E+00	1.0109E+00
GAME	9.6856E-01	9.1132E-01	8.2349E-01
U	3.3343E+00	1.7155E+00	1.4228E+00

SPECIES	MOLE FRACTIONS
E-	1.5703E-27
HE	3.4999E-01
HE+	1.1876E-51
HE++	0.
H	0.0083E-05
H+	8.1341E-20
H2	6.4999E-01

PI = 5.00E+01 N/SC-M. USI = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2116E+01	1.0458E+02	1.9342E+02
T	6.5680E+00	8.3772E+00	9.4300E+00
AMU	4.8794E+00	1.2198E+01	1.9372E+01
M	7.0673E+00	1.0432E+01	1.3760E+01
A	2.4404E+00	2.6439E+00	2.8203E+00
S	1.1135E+00	1.1214E+00	1.1431E+00
Z	1.0021E+00	1.0233E+00	1.0580E+00
GAME	9.0458E-01	8.1535E-01	7.9601E-01
U	4.1115E+00	1.6436E+00	1.3855E+00

SPECIES	MOLE FRACTIONS
E-	1.0450E-17
HE	3.4520E-01
HE+	2.0352E-42
HE++	0.
H	4.2199E-03
H+	1.0542E-17
H2	6.4652E-01

Table I. - Continued

$$\rho_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/50-M, US1= 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.7249E+01	6.8806E+02	9.8572E+02
T	5.8993E+00	1.2502E+01	1.3431E+01
RHO	8.7200E+00	4.2660E+01	5.3552E+01
M	1.8361E+01	3.1575E+01	3.7518E+01
A	2.9567E+00	3.6014E+00	3.8711E+00
S	1.2361E+00	1.2910E+00	1.3305E+00
Z	1.1450E+00	1.2916E+00	1.3705E+00
UAME	7.8423E-01	8.0322E-01	8.1412E-01
U	7.6313E+00	1.5617E+00	1.4843E+00
SPECIES ----- MOLE FRACTIONS -----			
E-	3.9690E-11	7.0977E-09	3.0413E-08
HE	3.1094E-01	2.7098E-01	2.5539E-01
HE+	9.4405E-24	1.2111E-22	4.5405E-21
HE++	0.	2.9124E-84	2.0209E-78
H	2.2310E-01	4.5153E-01	5.4062E-01
H+	3.9690E-11	7.0977E-09	3.0413E-08
H2	4.6587E-01	2.7749E-01	2.6396E-01

P1 = 5.00E+01 N/50-M, US1= 1.30E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0852E+02	1.5767E+03	2.2904E+03
T	1.1445E+01	1.6559E+01	2.2680E+01
RHO	1.1301E+01	6.0235E+01	6.1601E+01
M	3.0499E+01	5.4342E+01	6.6325E+01
A	3.4282E+00	4.8450E+00	6.3956E+00
S	1.3550E+00	1.4490E+00	1.5062E+00
Z	1.4901E+00	1.5808E+00	1.6446E+00
UAME	7.9231E-01	8.9640E-01	1.0573E+00
U	1.0217E+01	1.9274E+00	2.5087E+00
SPECIES ----- MOLE FRACTIONS -----			
E-	1.8450E-04	1.4304E-09	1.2790E-04
HE	2.7004E-01	2.2141E-01	2.1282E-01
HE+	9.9005E-23	5.2499E-17	4.4402E-14
HE++	9.4240E-90	2.0769E-83	2.0011E-42
H	4.5692E-01	7.3478E-01	7.8320E-01
H+	1.8450E-04	1.4304E-09	1.2790E-04
H2	2.7304E-01	4.3808E-02	3.4211E-03

PI = 5.00E+01 N/50-M, US1= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9034E+02	1.8918E+03	2.930E+03
T	1.1981E+01	2.0361E+01	3.159E+01
AMU	1.2010E+01	5.8712E+01	5.606E+01
M	3.544E+01	6.2918E+01	8.002E+01
A	3.612E+00	5.9483E+00	7.283E+00
S	1.399E+00	1.4986E+00	1.55E+00
Z	1.303E+00	1.8384E+00	1.65E+00
NAME	7.9061E-01	1.0607E+00	1.013E+00
U	1.1002E+01	2.3451E+00	3.017E+00

SPECIES	MOLE FRACTIONS
L-	3.3273E-03
HE	2.1363E-01
HE+	1.3808E-13
HE++	5.9585E-51
H	7.916E-01
M+	3.3273E-03
M2	7.1417E-03

PI = 5.00E+01 N/50-M, US1= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2003E+02	2.1681E+03	3.559E+03
T	1.2502E+01	2.6326E+01	3.765E+01
AMU	1.2516E+01	4.9925E+01	5.621E+01
M	4.0329E+01	7.1733E+01	9.301E+01
A	3.8207E+00	6.8829E+00	7.624E+00
S	1.4355E+00	1.5386E+00	1.589E+00
Z	1.4355E+00	1.6498E+00	1.681E+00
NAME	8.083E-01	1.0909E+00	9.184E-01
U	1.1895E+01	2.9807E+00	3.404E+00

SPECIES	MOLE FRACTIONS
L-	7.9045E-04
HE	2.1217E-01
HE+	3.7547E-10
HE++	1.3953E-38
H	7.8523E-01
M+	7.9045E-04
M2	1.0163E-03

PI = 5.00E+01 N/50-M, US1= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.107E+02	9.4857E+02	1.3370E+03
T	1.0420E+01	1.3516E+01	1.971E+01
AMU	9.692E+00	5.0643E+01	8.154E+01
M	4.200E+01	3.855E+01	4.550E+01
A	3.100E+00	3.908E+00	4.261E+00
S	1.2737E+00	1.3428E+00	1.387E+00
Z	1.1760E+00	1.3858E+00	1.470E+00
NAME	7.853E-01	8.1561E-01	8.365E-01
U	8.503E+00	1.6288E+00	1.590E+00

SPECIES	MOLE FRACTIONS
L-	3.5394E-08
HE	2.5256E-01
HE+	5.5438E-21
HE++	2.1333E-77
H	3.351E-01
M+	6.450E-01
M2	1.7497E-07
	1.1150E-01

PI = 5.00E+01 N/50-M, US1= 1E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4273E+02	1.2488E+03	1.750E+03
T	1.0934E+01	1.4734E+01	1.677E+01
AMU	1.050E+01	5.7058E+01	6.621E+01
M	2.610E+01	4.6160E+01	5.476E+01
A	3.2003E+00	4.2830E+00	4.893E+00
S	1.3137E+00	1.3963E+00	1.445E+00
Z	1.2530E+00	1.4854E+00	1.503E+00
NAME	7.880E-01	9.3813E-01	9.010E-01
U	5.564E+00	1.7372E+00	1.779E+00

SPECIES	MOLE FRACTIONS
L-	1.8485E-07
HE	2.3562E-01
HE+	3.2418E-19
HE++	9.0380E-72
H	6.5360E-01
M+	1.8485E-07
M2	1.1078E-01

Table I. - Continued

$$p_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/50-M. US1= 1.60E+04 M/SEC				P1 = 5.00E+01 N/50-M. US1= 1.90E+04 M/SEC			

PI = 5.00E+01 N/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.00E+02	2.70E+03	4.63E+03
T	1.40E+01	3.66E+01	4.50E+01
MMU	1.27E+01	4.40E+01	5.80E+01
H	2.15E+01	9.10E+01	1.18E+02
A	4.47E+00	7.52E+00	8.20E+00
S	1.50E+00	1.60E+00	1.65E+00
Z	1.50E+00	1.67E+00	1.75E+00
GAME	0.07E+01	9.20E+01	0.63E+01
U	1.30E+01	3.90E+01	3.70E+01

SPECIES	MOLE FRACTIONS
E	1.00E+00
HE	1.10E-01
NE	1.10E-01
ME	1.10E-01
H	1.10E-01
A	1.10E-01
S	1.10E-01
Z	1.10E-01
GAME	1.10E-01
U	1.10E-01

PI = 5.00E+01 N/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.00E+02	2.70E+03	4.63E+03
T	1.40E+01	3.66E+01	4.50E+01
MMU	1.27E+01	4.40E+01	5.80E+01
H	2.15E+01	9.10E+01	1.18E+02
A	4.47E+00	7.52E+00	8.20E+00
S	1.50E+00	1.60E+00	1.65E+00
Z	1.50E+00	1.67E+00	1.75E+00
GAME	0.07E+01	9.20E+01	0.63E+01
U	1.30E+01	3.90E+01	3.70E+01

SPECIES	MOLE FRACTIONS
E	1.00E+00
HE	1.10E-01
NE	1.10E-01
ME	1.10E-01
H	1.10E-01
A	1.10E-01
S	1.10E-01
Z	1.10E-01
GAME	1.10E-01
U	1.10E-01

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

PI = 5.00E+01 N/50-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.00E+02	2.70E+03	4.63E+03
T	1.40E+01	3.66E+01	4.50E+01
MMU	1.27E+01	4.40E+01	5.80E+01
H	2.15E+01	9.10E+01	1.18E+02
A	4.47E+00	7.52E+00	8.20E+00
S	1.50E+00	1.60E+00	1.65E+00
Z	1.50E+00	1.67E+00	1.75E+00
GAME	0.07E+01	9.20E+01	0.63E+01
U	1.30E+01	3.90E+01	3.70E+01

SPECIES	MOLE FRACTIONS
E	1.00E+00
HE	1.10E-01
NE	1.10E-01
ME	1.10E-01
H	1.10E-01
A	1.10E-01
S	1.10E-01
Z	1.10E-01
GAME	1.10E-01
U	1.10E-01

PI = 5.00E+01 N/50-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.00E+02	2.70E+03	4.63E+03
T	1.40E+01	3.66E+01	4.50E+01
MMU	1.27E+01	4.40E+01	5.80E+01
H	2.15E+01	9.10E+01	1.18E+02
A	4.47E+00	7.52E+00	8.20E+00
S	1.50E+00	1.60E+00	1.65E+00
Z	1.50E+00	1.67E+00	1.75E+00
GAME	0.07E+01	9.20E+01	0.63E+01
U	1.30E+01	3.90E+01	3.70E+01

SPECIES	MOLE FRACTIONS
E	1.00E+00
HE	1.10E-01
NE	1.10E-01
ME	1.10E-01
H	1.10E-01
A	1.10E-01
S	1.10E-01
Z	1.10E-01
GAME	1.10E-01
U	1.10E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued
 $P_1 = 50 \text{ N/m}^2$

$P_1 = 5.000 \times 10^1 \text{ N/m}^2$ $US1 = 2.200 \times 10^4 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6524E+02	3.0742E+01	4.7839E+03
T	3.6054E+01	4.8632E+01	5.4370E+01
RHU	8.5005E+00	3.3825E+01	4.4002E+01
H	8.4908E+01	1.4708E+02	1.8298E+02
A	7.0498E+00	8.7537E+00	9.5769E+00
S	1.7035E+00	1.7607E+00	1.8133E+00
Z	4.0754E+00	1.8688E+00	1.9906E+00
GAME	5.0864E+01	8.4312E+01	4.5162E+01
U	1.0732E+01	4.2049E+00	4.0014E+00
MOLE FRACTIONS			
SPECIES			
E-	1.5076E-02	1.1713E-01	1.7332E-01
HE	2.0043E-01	1.8717E-01	1.7407E-01
HE+	1.0902E-07	1.1477E-04	4.8404E-04
HE++	1.5708E-29	8.7908E-19	2.0400E-10
N	7.6066E-01	5.7855E-01	4.7841E-01
H+	1.5076E-02	1.1701E-01	1.7286E-01
H2	5.0113E-05	2.6442E-05	1.8007E-05

$P_1 = 5.000 \times 10^1 \text{ N/m}^2$ $US1 = 2.250 \times 10^4 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0031E+02	4.7018E+03	6.3670E+03
T	3.5127E+01	4.7754E+01	4.7510E+01
RHU	8.7904E+00	1.9120E+02	2.3404E+02
H	1.0773E+02	7.6722E+02	1.0814E+03
A	7.5994E+00	1.8659E+00	1.9072E+00
S	1.1731E+00	7.0314E+00	2.1894E+00
Z	1.7537E+00	1.4370E+01	8.2044E+01
GAME	4.4100E+01	4.4656E+00	4.2707E+00
U	1.9070E+01		
MOLE FRACTIONS			
SPECIES			
E-	5.9130E-02	1.8777E-01	2.4933E-01
HE	1.7977E-01	1.7112E-01	1.5030E-01
HE+	6.1074E-06	7.544E-04	1.8090E-03
HE++	7.4017E-24	3.9077E-10	3.0206E-14
N	6.0211E-01	4.5273E-01	3.5257E-01
H+	5.7144E-02	1.8719E-01	2.4204E-01
H2	1.9499E-05	1.3816E-05	8.7499E-06

PI = 5.00E+01 N/30-M, US1 = 2.10E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.00E+01	3.3884E+03	5.2115E+03
T	5.00E+01	5.0675E+01	5.0675E+01
HE	5.00E+01	3.4824E+01	4.4904E+01
HE+	5.00E+01	1.6092E+02	1.9917E+02
A	5.00E+01	9.0517E+00	9.9043E+00
S	5.00E+01	1.7841E+00	1.8430E+00
Z	5.00E+01	1.9198E+00	2.0534E+00
NAME	5.00E+01	9.4218E+01	8.4634E+01
U	5.00E+01	4.2797E+00	4.5050E+00

SPECIES ----- MOLE FRACTIONS -----

L	5.00E+01	1.4057E-01	1.5740E-01
HE	5.00E+01	1.4210E-01	1.6771E-01
HE+	5.00E+01	2.0583E-04	7.7401E-04
HE+	5.00E+01	7.5654E-18	1.1600E-15
A	5.00E+01	5.3673E-01	4.3377E-01
S	5.00E+01	1.4037E-01	1.9240E-01
Z	5.00E+01	7.1194E-03	1.4254E-03

PI = 5.00E+01 N/30-M, US1 = 2.70E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.00E+01	3.7662E+03	5.7357E+03
T	5.00E+01	5.2717E+01	5.0402E+01
HE	5.00E+01	3.6191E+01	4.6200E+01
HE+	5.00E+01	1.7565E+02	2.1633E+02
A	5.00E+01	9.3675E+00	1.0230E+01
S	5.00E+01	1.8175E+00	1.8774E+00
Z	5.00E+01	1.9742E+00	2.1100E+00
NAME	5.00E+01	8.4250E+01	8.4017E+01
U	5.00E+01	4.3555E+00	4.1704E+00

SPECIES ----- MOLE FRACTIONS -----

L	5.00E+01	1.6423E-01	2.2104E-01
HE	5.00E+01	1.7164E-01	1.8404E-01
HE+	5.00E+01	3.5117E-04	1.4200E-03
HE+	5.00E+01	4.4477E-17	6.1349E-15
A	5.00E+01	5.9454E-01	3.5350E-01
S	5.00E+01	1.6388E-01	2.1504E-01
Z	5.00E+01	1.7119E-03	1.1221E-03

PI = 5.00E+01 N/30-M, US1 = 2.60E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.00E+01	4.6797E+03	7.0232E+03
T	5.00E+01	5.6792E+01	6.2892E+01
HE	5.00E+01	3.9406E+01	4.9504E+01
HE+	5.00E+01	2.0750E+02	2.5395E+02
A	5.00E+01	1.0020E+01	1.0991E+01
S	5.00E+01	1.8745E+00	1.9303E+00
Z	5.00E+01	2.0911E+00	2.2544E+00
NAME	5.00E+01	8.4548E+01	8.5200E+01
U	5.00E+01	4.5442E+00	4.6054E+00

SPECIES ----- MOLE FRACTIONS -----

L	5.00E+01	2.1094E-01	2.6730E-01
HE	5.00E+01	1.6647E-01	1.5253E-01
HE+	5.00E+01	9.1113E-04	4.8727E-03
HE+	5.00E+01	1.8784E-15	1.4011E-13
A	5.00E+01	4.3377E-01	3.1270E-01
S	5.00E+01	2.1003E-01	2.6451E-01
Z	5.00E+01	1.1121E-03	6.7409E-03

PI = 5.00E+01 N/30-M, US1 = 2.70E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.00E+01	3.1957E+03	7.7507E+03
T	5.00E+01	5.8835E+01	6.5107E+01
HE	5.00E+01	4.1023E+01	5.1240E+01
HE+	5.00E+01	2.2448E+02	2.7414E+02
A	5.00E+01	1.0341E+01	1.1377E+01
S	5.00E+01	1.9033E+00	1.9690E+00
Z	5.00E+01	2.1527E+00	2.3214E+00
NAME	5.00E+01	8.4762E+01	8.5544E+01
U	5.00E+01	4.6503E+00	4.5304E+00

SPECIES ----- MOLE FRACTIONS -----

L	5.00E+01	2.3352E-01	2.8937E-01
HE	5.00E+01	1.6119E-01	1.4044E-01
HE+	5.00E+01	1.4021E-03	4.2907E-03
HE+	5.00E+01	9.2964E-15	6.4508E-13
A	5.00E+01	3.7177E-01	2.7011E-01
S	5.00E+01	2.3212E-01	2.8507E-01
Z	5.00E+01	8.6655E-03	5.0944E-03

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued

$$p_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/50-M, US1 = 2.80E+04 M/SEC				P1 = 5.00E+01 N/50-M, US1 = 3.00E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	7.0201E+02	5.7481E+03	8.5601E+03	P	1.0000E+03	8.2769E+03	1.2102E+04
T	9.2053E+01	6.0896E+01	6.7552E+01	T	4.8712E+01	6.9516E+01	7.7730E+01
RHU	9.9013E+00	4.2547E+01	5.2800E+01	RHU	1.0190E+01	4.8042E+01	5.8500E+01
M	1.1730E+02	7.4214E+02	2.9512E+02	M	1.7941E+02	3.1933E+02	3.8774E+02
A	8.1999E+00	1.0710E+01	1.1771E+01	A	9.0338E+00	1.2157E+01	1.3374E+01
S	1.0422E+00	1.9323E+00	2.0012E+00	S	1.9301E+00	2.0503E+00	2.1291E+00
Z	1.0504E+00	2.2160E+00	2.3927E+00	Z	2.0230E+00	2.4783E+00	2.6757E+00
NAME	8.2000E+01	8.4998E+01	8.5720E+01	NAME	8.2017E+01	8.5752E+01	8.5970E+01
U	2.1507E+01	4.7638E+00	4.8603E+00	U	2.4875E+01	5.2854E+00	5.2419E+00
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
C-	1.1208E-01	2.5541E-01	3.1040E-01	C-	1.0430E-01	3.7423E-01	3.8334E-01
HE	1.0031E-01	1.5584E-01	1.3995E-01	HE	1.7200E-01	1.3207E-01	1.0035E-01
HC+	3.9931E-05	2.1098E-03	6.3490E-03	HC+	2.1351E-04	9.1564E-03	2.4054E-02
HE++	7.0320E-21	4.2255E-14	2.7909E-12	HE++	3.4190E-18	9.8515E-12	5.0495E-10
H	2.0753E-01	3.3333E-01	2.3927E-01	H	4.3044E-01	1.9948E-01	1.2497E-01
H+	1.1208E-01	2.5330E-01	3.6407E-01	H+	1.0416E-01	3.2507E-01	3.5000E-01
H2	1.0029E-05	6.9879E-06	3.7900E-06	H2	5.3905E-06	2.3313E-06	9.9302E-07

PI = 5.00E+01 N/50-M, USI = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.400E+02	6.334E+03	9.3850E+03
T	4.498E+01	6.298E+01	6.999E+01
KHU	5.610E+00	4.410E+01	5.441E+01
M	1.473E+02	2.604E+02	3.170E+02
A	4.404E+00	1.10E+01	1.217E+01
S	1.866E+00	1.961E+00	2.033E+00
Z	1.897E+00	2.280E+00	2.466E+00
GAME	8.277E-01	8.523E-01	8.587E-01
U	2.234E+01	4.884E+00	4.801E+00

SPECIES

MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E	1.3023E-01
FE	1.894E-01
HE	1.503E-01
HE+	3.116E-03
HE++	1.792E-13
M	2.966E-01
M+	2.733E-01
M2	5.434E-06

PI = 5.00E+01 N/50-M, USI = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.750E+02	6.9527E+03	1.027E+04
T	4.60E+01	6.511E+01	7.249E+01
KHU	5.814E+00	4.551E+01	5.589E+01
M	1.570E+02	2.794E+02	3.37E+02
A	8.011E+00	1.142E+01	1.250E+01
S	1.805E+00	1.991E+00	2.066E+00
Z	1.937E+00	2.346E+00	2.53E+00
GAME	8.277E-01	8.546E-01	8.587E-01
U	2.322E+01	5.012E+00	4.942E+00

SPECIES

MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E	1.403E-01
FE	1.802E-01
HE	1.446E-01
HE+	4.530E-03
HE++	7.171E-13
M	2.619E-01
M+	2.921E-01
M2	4.163E-06

PI = 5.00E+01 N/50-M, USI = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.130E+03	7.734E+03	1.027E+04
T	5.100E+01	7.411E+01	8.374E+01
KHU	1.054E+01	5.019E+01	6.061E+01
M	4.002E+02	3.617E+02	4.380E+02
A	5.470E+00	1.244E+01	1.470E+01
S	1.507E+00	7.110E+00	7.132E+00
Z	2.135E+00	2.604E+00	2.810E+00
GAME	8.304E-01	8.581E-01	8.619E-01
U	2.002E+01	5.570E+00	5.547E+00

SPECIES

MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E	4.194E-01
FE	1.051E-01
HE	1.168E-01
HE+	9.220E-04
HE++	4.000E-13
M	3.977E-01
M+	2.190E-01
M2	3.503E-06

PI = 5.00E+01 N/50-M, USI = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.027E+03	1.123E+04	1.040E+04
T	5.347E+01	7.874E+01	8.427E+01
KHU	1.003E+01	5.194E+01	6.000E+01
M	2.270E+02	4.067E+02	4.934E+02
A	5.423E+00	1.362E+01	1.510E+01
S	4.037E+00	7.169E+00	7.200E+00
Z	2.200E+00	2.736E+00	2.844E+00
GAME	8.304E-01	8.581E-01	8.722E-01
U	2.002E+01	5.585E+00	5.547E+00

SPECIES

MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E	4.552E-01
FE	1.051E-01
HE	9.024E-02
HE+	7.965E-04
HE++	4.000E-13
M	1.010E-01
M+	1.076E-01
M2	3.673E-06

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued

$$\rho_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/50-M. US1 = 3.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.420E+03	1.282E+04	1.885E+04
T	5.587E+01	8.402E+01	9.864E+01
RHO	1.107E+01	5.336E+01	6.348E+01
M	2.529E+02	4.540E+02	5.519E+02
A	1.039E+01	1.439E+01	1.634E+01
S	2.088E+00	2.234E+00	2.323E+00
Z	2.309E+00	2.865E+00	3.072E+00
GAME	8.378E-01	8.625E-01	8.987E-01
U	2.979E+01	6.184E+00	6.292E+00
SPECIES ----- POLE FRACTIONS -----			
E-	2.854E-01	4.231E-01	4.629E-01
HE	1.501E-01	7.651E-02	3.477E-02
NE+	1.444E-03	4.583E-02	7.913E-02
NE++	3.767E-15	7.523E-09	3.019E-07
H	2.789E-01	7.711E-02	3.940E-02
H+	2.840E-01	3.773E-01	3.837E-01
H2	1.655E-06	3.110E-07	8.341E-08

P1 = 5.00E+01 N/50-M. US1 = 4.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.592E+03	1.767E+04	2.073E+04
T	6.397E+01	1.045E+02	1.244E+02
RHO	1.147E+01	5.294E+01	5.461E+01
M	3.389E+02	6.093E+02	7.073E+02
A	1.193E+01	1.787E+01	2.280E+01
S	2.449E+00	2.405E+00	2.512E+00
Z	2.618E+00	4.185E+00	5.279E+00
GAME	8.993E-01	9.557E-01	1.010E+00
U	3.401E+01	7.572E+00	9.274E+00
SPECIES ----- POLE FRACTIONS -----			
E-	3.693E-01	4.819E-01	4.991E-01
HE	1.253E-01	1.547E-02	1.669E-02
NE+	9.363E-03	9.440E-02	1.007E-02
NE++	2.045E-12	2.557E-06	2.741E-03
H	1.354E-01	2.055E-02	4.804E-02
H+	3.619E-01	3.875E-01	3.947E-01
H2	3.245E-07	1.743E-08	2.190E-10

PI = 5.00E+01 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1014E+03	1.9094E+04	3.0305E+04
T	0.1001E+01	1.1793E+02	1.7204E+02
KMU	1.1520E+01	4.9817E+01	5.2974E+01
M	3.7044E+02	6.6422E+02	8.5354E+02
A	1.4220E+01	1.9965E+01	2.3130E+01
S	2.2574E+00	2.4566E+00	2.525E+00
Z	2.7183E+00	3.2501E+00	3.334E+00
NAME	8.5027E+01	1.0400E+00	9.3304E+01
U	3.6004E+01	8.3807E+00	1.0073E+01

SPECIES	MOLE FRACTIONS
C-	5.9301E-01
HE	4.9233E-01
HE+	5.5029E-03
HE++	1.0216E-01
H	3.0295E-03
H+	9.8754E-03
H2	3.9011E-01
	3.3580E-09
	5.0406E-01
	5.2693E-09
	9.2054E-02
	1.1044E-02
	1.5473E-03
	3.8054E-01
	6.4130E-11

PI = 5.00E+01 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2087E+03	2.0393E+04	3.3210E+04
T	7.0330E+01	1.3511E+02	1.8549E+02
KMU	1.1505E+01	4.5980E+01	5.2943E+01
M	4.0320E+02	7.2012E+02	9.3024E+02
A	1.4293E+01	2.1509E+01	2.3740E+01
S	2.4700E+00	2.5082E+00	2.6054E+00
Z	2.8140E+00	3.2810E+00	3.3847E+00
NAME	8.4004E+01	1.0428E+00	9.954E+01
U	3.7709E+01	9.4955E+00	1.0261E+01

SPECIES	MOLE FRACTIONS
C-	4.9711E-01
HE	1.9486E-03
HE+	1.0444E-01
HE++	3.9257E-04
H	4.3289E-03
H+	3.9189E-01
H2	5.2174E-10
	5.1444E-01
	3.5301E-04
	7.7174E-02
	2.5333E-03
	1.1206E-03
	3.8310E-01
	3.2044E-11

PI = 5.00E+01 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2027E+03	1.4470E+04	2.1413E+04
T	5.8944E+01	8.9526E+01	1.0744E+02
KMU	1.1201E+01	5.4272E+01	6.2542E+01
M	2.8024E+02	5.0385E+02	6.1004E+02
A	1.0091E+01	1.5247E+01	1.8152E+01
S	2.1495E+00	2.2896E+00	2.3894E+00
Z	2.4116E+00	2.9781E+00	3.1802E+00
NAME	8.4230E+01	8.7419E-01	9.6270E+01
U	3.1411E+01	6.5185E+00	6.8922E+00

SPECIES	MOLE FRACTIONS
C-	5.1502E-01
HE	4.4596E-01
HE+	5.3985E-02
HE++	6.3538E-02
H	4.7896E-08
H+	5.4086E-02
H2	3.8243E-01
	1.4594E-07
	4.8404E-01
	1.4022E-02
	9.5177E-02
	3.5023E-06
	2.6406E-02
	3.8704E-01
	2.0005E-08

PI = 5.00E+01 N/50-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7201E+03	1.6108E+04	2.4200E+04
T	6.1089E+01	9.6135E+01	1.2699E+02
KMU	1.1393E+01	5.4222E+01	5.8850E+01
M	3.0042E+02	5.5571E+02	6.9103E+02
A	1.1402E+01	1.6359E+01	2.0474E+01
S	2.1527E+00	2.3480E+00	2.4524E+00
Z	2.5152E+00	3.0898E+00	3.2202E+00
NAME	8.4003E+01	9.0098E-01	1.0607E+00
U	3.3018E+01	6.9357E+00	7.9233E+00

SPECIES	MOLE FRACTIONS
C-	4.6599E-01
HE	3.2537E-02
HE+	8.0737E-02
HE++	3.1478E-07
H	3.5484E-02
H+	3.8525E-01
H2	5.8418E-08
	4.5942E-01
	3.7374E-03
	1.0092E-01
	9.5702E-03
	7.8492E-03
	3.9004E-01
	2.3513E-09

Table 1. - Continued

$$p_1 = 50 \text{ N/m}^2$$

PI = 5.00E+01 M/SEC				PI = 5.00E+01 M/SEC			
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK		MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.4846E+04	2.2721E+04	3.6140E+05	P	2.1119E+04	2.6855E+04	4.4790E+04
T	7.2720E+04	1.0720E+05	1.0720E+05	T	9.6056E+01	1.8027E+02	2.4031E+02
WM	1.0000E+01	4.0000E+01	5.0000E+01	M	1.2444E+01	4.1920E+01	5.1810E+01
M	4.0000E+01	7.0000E+01	1.0000E+02	H	5.4944E+02	9.7221E+02	1.2674E+03
A	1.0000E+01	2.0000E+01	3.0000E+01	A	1.0572E+01	2.0000E+01	2.9252E+01
Z	2.0000E+01	3.0000E+01	4.0000E+01	S	2.0000E+01	3.0000E+01	4.0000E+01
GAME	1.0000E+01	2.0000E+01	3.0000E+01	Z	1.0000E+01	1.0000E+01	2.0000E+01
U	3.0000E+01	4.0000E+01	5.0000E+01	GAME	8.0000E+01	1.0000E+01	2.0000E+01
				U	4.0000E+01	1.0000E+01	2.0000E+01

PI = 5.00E+01 N/SEC-4, US3 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6477E+01	2.7755E+01	3.0096E+01
T	7.7755E+01	1.5775E+02	2.0076E+02
RHO	1.1117E+01	4.1600E+01	5.3876E+01
M	4.0733E+01	3.0075E+02	1.0003E+03
A	1.6677E+01	2.2866E+01	2.6699E+01
S	2.6577E+01	2.6577E+01	2.6699E+01
Z	2.0933E+01	2.0933E+01	2.6699E+01
GAME	9.6197E+01	9.3875E+01	9.3505E+01
U	6.7000E+01	1.6677E+01	1.1117E+01

SPECIES	MOLE FRACTIONS
E-	4.4872E-01
HE	4.2575E-01
ME	6.5875E-02
ME+	2.5770E-02
M	1.0044E-01
A	2.0100E-01
S	1.3675E-01
Z	2.0933E-01
U	3.0572E-01

PI = 5.00E+01 N/SEC-4, US3 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6477E+01	2.6400E+01	4.2026E+01
T	6.1727E+01	1.7075E+02	2.2626E+02
RHO	1.1117E+01	4.1766E+01	5.3876E+01
M	4.0733E+01	3.0075E+02	1.0003E+03
A	1.6677E+01	2.2866E+01	2.6699E+01
S	2.6577E+01	2.6577E+01	2.6699E+01
Z	2.0933E+01	2.0933E+01	2.6699E+01
GAME	9.6197E+01	9.3875E+01	9.3505E+01
U	6.7000E+01	1.6677E+01	1.1117E+01

SPECIES	MOLE FRACTIONS
E-	4.4872E-01
HE	4.2575E-01
ME	6.5875E-02
ME+	2.5770E-02
M	1.0044E-01
A	2.0100E-01
S	1.3675E-01
Z	2.0933E-01
U	3.0572E-01

PI = 5.00E+01 N/SEC-4, US3 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6477E+01	2.7755E+01	4.0014E+01
T	7.7755E+01	1.5775E+02	2.0076E+02
RHO	1.1117E+01	4.1600E+01	5.3876E+01
M	4.0733E+01	3.0075E+02	1.0003E+03
A	1.6677E+01	2.2866E+01	2.6699E+01
S	2.6577E+01	2.6577E+01	2.6699E+01
Z	2.0933E+01	2.0933E+01	2.6699E+01
GAME	9.6197E+01	9.3875E+01	9.3505E+01
U	6.7000E+01	1.6677E+01	1.1117E+01

SPECIES	MOLE FRACTIONS
E-	4.4872E-01
HE	4.2575E-01
ME	6.5875E-02
ME+	2.5770E-02
M	1.0044E-01
A	2.0100E-01
S	1.3675E-01
Z	2.0933E-01
U	3.0572E-01

PI = 5.00E+01 N/SEC-4, US3 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6477E+01	2.6400E+01	4.2026E+01
T	6.1727E+01	1.7075E+02	2.2626E+02
RHO	1.1117E+01	4.1766E+01	5.3876E+01
M	4.0733E+01	3.0075E+02	1.0003E+03
A	1.6677E+01	2.2866E+01	2.6699E+01
S	2.6577E+01	2.6577E+01	2.6699E+01
Z	2.0933E+01	2.0933E+01	2.6699E+01
GAME	9.6197E+01	9.3875E+01	9.3505E+01
U	6.7000E+01	1.6677E+01	1.1117E+01

SPECIES	MOLE FRACTIONS
E-	4.4872E-01
HE	4.2575E-01
ME	6.5875E-02
ME+	2.5770E-02
M	1.0044E-01
A	2.0100E-01
S	1.3675E-01
Z	2.0933E-01
U	3.0572E-01

Table I. - Continued

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/50-M. US1 = 6.20E+04 M/SEC				P1 = 5.00E+01 N/50-M. US1 = 6.80E+04 M/SEC			

P1 = 5.00E+01 N/SEC U1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.718E+02	2.086E+04	5.564E+04
T	1.600E+02	2.022E+02	4.933E+02
RHO	8.741E+00	7.806E+00	2.090E+01
M	8.517E+02	1.462E+03	2.0E+01
A	2.170E+01	1.4E+02	4.878E+01
S	2.821E+00	2.030E+00	3.077E+00
Z	2.775E+00	2.641E+00	3.649E+00
GAMF	8.737E-01	1.119E+00	1.138E+00
U	5.347E+01	1.66E+01	2.106E+01

SPECIES	MOLE FRACTIONS
C-	5.477E-01
HC	1.114E-04
HE+	8.143E-03
HE++	2.111E-03
H	2.624E-04
H+	2.850E-01
H2	4.197E-01

P1 = 5.00E+01 N/SEC U1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.574E+02	2.770E+04	4.811E+04
T	1.600E+02	2.011E+02	2.656E+02
RHO	8.741E+00	2.378E+01	2.606E+01
M	7.622E+02	1.342E+03	1.682E+03
A	2.170E+01	2.942E+01	2.992E+01
S	2.821E+00	2.824E+00	2.947E+00
Z	2.775E+00	2.890E+00	2.649E+00
GAMF	1.047E+00	0.848E-01	1.135E+00
U	4.002E+01	1.627E+01	1.607E+01

SPECIES	MOLE FRACTIONS
C-	5.416E-01
HC	2.478E-05
HE+	1.026E-03
HE++	8.360E-02
H	2.005E-04
H+	2.608E-01
H2	1.676E-02

P1 = 5.00E+01 N/SEC U1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.002E+01	2.789E+04	4.935E+04
T	1.600E+02	2.475E+02	4.027E+02
RHO	8.741E+00	1.001E+01	2.341E+01
M	7.622E+02	1.342E+03	1.796E+03
A	2.170E+01	2.058E+01	4.292E+01
S	2.821E+00	2.841E+00	2.947E+00
Z	2.775E+00	2.841E+00	2.649E+00
GAMF	0.723E-01	1.142E+00	1.137E+00
U	4.002E+01	1.607E+01	1.627E+01

SPECIES	MOLE FRACTIONS
C-	5.410E-01
HC	2.478E-05
HE+	1.026E-03
HE++	8.360E-02
H	2.005E-04
H+	2.608E-01
H2	1.676E-02

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1,000E+03 N/SC-M9				US18 4,000E+03 W/SEC				P1 = 1,000E+03 N/SC-M9				US18 7,000E+03 W/SEC			
MOVING SHOCK				STANDING SHOCK				MOVING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK				REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES				SPECIES				SPECIES			
P	1,3047E+01	2,8747E+01	7,3789E+01	P	7,4470E+01	1,7027E+02	3,0001E+02	P	7,4470E+01	1,7027E+02	3,0001E+02	P	7,4470E+01	1,7027E+02	3,0001E+02
T	2,8541E+00	6,4700E+00	4,4820E+00	T	2,9324E+00	6,4700E+00	1,0775E+01	T	2,9324E+00	6,4700E+00	1,0775E+01	T	2,9324E+00	6,4700E+00	1,0775E+01
OH	2,0000E+00	4,6700E+00	1,1189E+01	OH	2,0000E+00	4,6700E+00	1,1189E+01	OH	2,0000E+00	4,6700E+00	1,1189E+01	OH	2,0000E+00	4,6700E+00	1,1189E+01
H	2,4235E+00	4,6700E+00	4,8943E+00	H	2,4235E+00	4,6700E+00	4,8943E+00	H	2,4235E+00	4,6700E+00	4,8943E+00	H	2,4235E+00	4,6700E+00	4,8943E+00
A	1,8734E+00	2,0971E+00	2,4895E+00	A	1,8734E+00	2,0971E+00	2,4895E+00	A	1,8734E+00	2,0971E+00	2,4895E+00	A	1,8734E+00	2,0971E+00	2,4895E+00
S	1,0435E+00	1,0718E+00	1,0770E+00	S	1,0435E+00	1,0718E+00	1,0770E+00	S	1,0435E+00	1,0718E+00	1,0770E+00	S	1,0435E+00	1,0718E+00	1,0770E+00
Z	1,0000E+00	1,0000E+00	1,0000E+00	Z	1,0000E+00	1,0000E+00	1,0000E+00	Z	1,0000E+00	1,0000E+00	1,0000E+00	Z	1,0000E+00	1,0000E+00	1,0000E+00
GAME	0,8771E+01	2,7465E+01	9,2211E+01	GAME	0,8771E+01	2,7465E+01	9,2211E+01	GAME	0,8771E+01	2,7465E+01	9,2211E+01	GAME	0,8771E+01	2,7465E+01	9,2211E+01
U	2,8703E+00	1,0709E+00	1,0541E+00	U	2,8703E+00	1,0709E+00	1,0541E+00	U	2,8703E+00	1,0709E+00	1,0541E+00	U	2,8703E+00	1,0709E+00	1,0541E+00
SPECIES				SPECIES				SPECIES				SPECIES			
Fw	1,4084E+00	1,4084E+00	1,4084E+00	Fw	1,4084E+00	1,4084E+00	1,4084E+00	Fw	1,4084E+00	1,4084E+00	1,4084E+00	Fw	1,4084E+00	1,4084E+00	1,4084E+00
Mc	2,8000E+01	2,8000E+01	2,8000E+01	Mc	2,8000E+01	2,8000E+01	2,8000E+01	Mc	2,8000E+01	2,8000E+01	2,8000E+01	Mc	2,8000E+01	2,8000E+01	2,8000E+01
ME+	1,7777E+01	1,7777E+01	1,7777E+01	ME+	1,7777E+01	1,7777E+01	1,7777E+01	ME+	1,7777E+01	1,7777E+01	1,7777E+01	ME+	1,7777E+01	1,7777E+01	1,7777E+01
ME+	0	0	0	ME+	0	0	0	ME+	0	0	0	ME+	0	0	0
H	1,4335E+00	1,4335E+00	1,4335E+00	H	1,4335E+00	1,4335E+00	1,4335E+00	H	1,4335E+00	1,4335E+00	1,4335E+00	H	1,4335E+00	1,4335E+00	1,4335E+00
M+	1,4335E+00	1,4335E+00	1,4335E+00	M+	1,4335E+00	1,4335E+00	1,4335E+00	M+	1,4335E+00	1,4335E+00	1,4335E+00	M+	1,4335E+00	1,4335E+00	1,4335E+00
M2	1,4335E+00	1,4335E+00	1,4335E+00	M2	1,4335E+00	1,4335E+00	1,4335E+00	M2	1,4335E+00	1,4335E+00	1,4335E+00	M2	1,4335E+00	1,4335E+00	1,4335E+00

P1 = 1.00E+02 N/SQ-M, US1 = 8.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.202E+01	2.042E+02	4.420E+02
T	4.98E+00	1.091E+01	1.182E+01
RND	4.414E+00	2.413E+01	3.313E+01
M	2.172E+00	1.944E+01	2.390E+01
A	2.198E+00	3.121E+00	3.394E+00
S	1.089E+00	1.199E+00	1.234E+00
Z	1.000E+00	1.172E+00	1.179E+00
GAME	9.491E-01	7.941E-01	7.997E-01
U	3.334E+00	1.657E+00	1.427E+00

SPECIES ----- MOLE FRACTIONS -----

E-	8.194E-12	2.221E-11	1.411E-09
HE	2.447E-01	2.117E-01	2.064E-01
ME+	2.447E-01	2.117E-01	2.064E-01
ME++	0.	0.	0.
H	7.410E-01	2.187E-01	2.047E-01
M+	8.134E-20	2.221E-11	1.411E-09
M2	6.499E-01	4.478E-01	3.984E-01

P1 = 1.00E+02 N/SQ-M, US1 = 9.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.208E+01	2.714E+01	6.849E+01
T	4.897E+00	1.180E+01	1.287E+01
RND	7.960E+00	2.196E+01	3.180E+01
M	2.455E+00	2.196E+01	3.180E+01
A	1.114E+00	1.781E+00	1.723E+00
S	1.001E+00	1.781E+00	1.723E+00
Z	9.182E-01	1.781E+00	1.723E+00
GAME	4.101E+00	2.013E-01	2.072E-01
U		1.477E+00	1.476E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.001E-11	1.407E-09	9.724E-09
HE	2.264E-01	2.077E-01	2.049E-01
ME+	2.264E-01	2.077E-01	2.049E-01
ME++	0.	0.	0.
H	1.407E-01	2.077E-01	2.049E-01
M+	1.001E-11	1.407E-09	9.724E-09
M2	2.264E-01	2.077E-01	2.049E-01

P1 = 1.00E+02 N/SQ-M, US1 = 8.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.202E+01	2.042E+02	4.420E+02
T	4.98E+00	1.091E+01	1.182E+01
RND	4.414E+00	2.413E+01	3.313E+01
M	2.172E+00	1.944E+01	2.390E+01
A	2.198E+00	3.121E+00	3.394E+00
S	1.089E+00	1.199E+00	1.234E+00
Z	1.000E+00	1.172E+00	1.179E+00
GAME	9.491E-01	7.941E-01	7.997E-01
U	3.334E+00	1.657E+00	1.427E+00

SPECIES ----- MOLE FRACTIONS -----

E-	8.194E-12	8.207E-14	1.411E-09
HE	2.447E-01	2.117E-01	2.064E-01
ME+	2.447E-01	2.117E-01	2.064E-01
ME++	0.	0.	0.
H	7.410E-01	2.187E-01	2.047E-01
M+	8.134E-20	2.221E-11	1.411E-09
M2	6.499E-01	4.478E-01	3.984E-01

P1 = 1.00E+02 N/SQ-M, US1 = 9.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.208E+01	1.028E+02	1.093E+02
T	4.897E+00	8.413E+00	8.696E+00
RND	7.960E+00	1.184E+01	1.287E+01
M	2.455E+00	1.184E+01	1.287E+01
A	1.114E+00	2.670E+00	2.849E+00
S	1.001E+00	1.124E+00	1.124E+00
Z	9.182E-01	1.002E+00	1.002E+00
GAME	4.101E+00	2.247E-01	2.247E-01
U		1.477E+00	1.476E+00

SPECIES ----- MOLE FRACTIONS -----

E-	7.491E-11	1.477E-12	7.821E-12
HE	2.264E-01	2.077E-01	2.049E-01
ME+	2.264E-01	2.077E-01	2.049E-01
ME++	0.	0.	0.
H	1.407E-01	2.077E-01	2.049E-01
M+	1.001E-11	1.407E-09	9.724E-09
M2	2.264E-01	2.077E-01	2.049E-01

REPRODUCIBILITY OF THE
ORIGINAL DATA IS DOUBT

Table I. - Continued
 $P_1 = 100 \text{ N/m}^2$

$P_1 = 1.00E+02 \text{ N/SQ-M.} \quad U_1 = 1.00E+04 \text{ M/SEC}$				$P_1 = 1.00E+02 \text{ N/SQ-M.} \quad U_1 = 1.00E+04 \text{ M/SEC}$			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	9.4870E+01	9.4870E+01	9.4870E+01	P	1.0000E+00	1.0000E+00	1.0000E+00
T	1.0215E+01	1.2573E+01	1.4007E+01	T	1.0000E+00	1.0000E+00	1.0000E+00
BHN	8.4748E+00	3.5859E+01	9.0240E+01	BHN	1.0000E+00	1.0000E+00	1.0000E+00
M	7.8947E+00	3.1414E+01	3.7544E+01	M	1.0000E+00	1.0000E+00	1.0000E+00
A	7.0027E+00	3.4614E+00	3.9801E+00	A	1.0000E+00	1.0000E+00	1.0000E+00
S	1.2354E+00	1.2917E+00	1.3314E+00	S	1.0000E+00	1.0000E+00	1.0000E+00
Z	1.1100E+00	1.2788E+00	1.3088E+00	Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	7.8888E-01	8.0811E-01	8.1975E-01	GAME	1.0000E+00	1.0000E+00	1.0000E+00
U	7.4020E+00	1.4172E+00	1.5744E+00	U	1.0000E+00	1.0000E+00	1.0000E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	6.4291E-11	1.1275E-08	5.0152E-08	E-	1.0000E+00	1.0000E+00	1.0000E+00
HE	3.1282E-01	2.7347E-01	2.8784E-01	HE	1.0000E+00	1.0000E+00	1.0000E+00
HE+	1.4196E-27	7.0008E-22	3.4972E-20	HE+	1.0000E+00	1.0000E+00	1.0000E+00
HE++	0.	0.	1.3355E-75	HE++	1.0000E+00	1.0000E+00	1.0000E+00
H	2.1248E-01	4.3419E-01	5.2894E-01	H	1.0000E+00	1.0000E+00	1.0000E+00
H+	6.4291E-11	1.1275E-08	5.0152E-08	H+	1.0000E+00	1.0000E+00	1.0000E+00
H2	6.7479E-01	2.9015E-01	2.1459E-01	H2	1.0000E+00	1.0000E+00	1.0000E+00

P1 = 1.00E+02 N/SQ-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.18E+02	9.0928E+02	1.2982E+03
T	1.0787E+01	1.4058E+01	1.5376E+01
RMO	9.4017E+00	4.7174E+01	4.7702E+01
M	2.2045E+01	3.8971E+01	4.5635E+01
A	2.1354E+00	3.9774E+00	4.3315E+00
S	1.2767E+00	1.3424E+00	1.3870E+00
Z	1.1689E+00	1.3712E+00	1.4434E+00
GAME	7.8955E-01	8.2072E-01	8.4217E-01
U	8.4726E+00	1.4889E+00	1.4488E+00

SPECIES	MOLE FRACTIONS	
E-	2.9927E-10	2.7938E-07
HF	2.9944E-01	2.7918E-01
HF+	2.8648E-24	1.7330E-18
M	0.	7.7015E-74
M+	2.8893E-01	1.6823E-69
M2	2.9027E-10	4.3328E-01
	4.1164E-01	2.7938E-07
		1.5774E-01

P1 = 1.00E+02 N/SQ-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4224E+03	1.1957E+03	1.7049E+03
T	1.1338E+01	1.5336E+01	1.7465E+01
RMO	1.0943E+01	4.7078E+01	4.2204E+01
M	2.4001E+01	4.5948E+01	4.6848E+01
A	3.2173E+00	4.3444E+00	4.6484E+00
S	1.3147E+00	1.7047E+00	1.6444E+00
Z	1.2249E+00	1.4489E+00	1.5693E+00
GAME	7.0244E-01	8.4245E-01	8.9045E-01
U	8.2224E+00	1.8013E+00	1.8387E+00

SPECIES	MOLE FRACTIONS	
E-	1.7292E-08	2.7911E-07
HF	2.8675E-01	2.3877E-01
HF+	4.8610E-26	1.4174E-18
M	0.	7.7015E-74
M+	3.4717E-01	4.3388E-01
M2	1.0202E-08	2.7911E-07
	3.4708E-01	1.2224E-01
		2.2443E-06
		2.3774E-14
		3.2592E-50
		7.2884E-01
		2.2443E-04
		5.1627E-07

P1 = 1.00E+02 N/SQ-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8847E+03	1.8177E+03	2.8208E+03
T	1.2444E+01	2.0472E+01	2.1484E+01
RMO	1.2401E+01	2.1877E+01	2.1880E+01
M	2.2223E+01	4.7488E+01	4.7488E+01
A	2.4813E+00	2.8772E+00	2.8772E+00
S	1.4012E+00	1.4560E+00	1.4560E+00
Z	1.3434E+00	1.4390E+00	1.4390E+00
GAME	8.0245E-01	1.0300E+00	1.0300E+00
U	1.1022E+01	2.7418E+00	2.7418E+00

SPECIES	MOLE FRACTIONS	
E-	9.4171E-08	2.7447E-07
HF	2.8849E-01	2.1472E-01
HF+	1.0327E-22	1.4472E-19
M	9.7383E-83	1.0108E-70
M+	2.7179E-01	2.7255E-01
M2	6.4171E-08	2.7447E-07
	2.1849E-01	1.7272E-02
		2.2144E-03
		2.1484E-01
		2.1877E-01
		2.1880E+01
		4.7488E+01
		2.8772E+00
		1.4560E+00
		1.4390E+00
		1.0300E+00
		2.7418E+00

P1 = 1.00E+02 N/SQ-M, US1 = 1.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2522E+03	2.0472E+03	2.4232E+03
T	1.2107E+01	2.0429E+01	2.0628E+01
RMO	1.2077E+01	4.8182E+01	4.8249E+01
M	4.0210E+01	7.1817E+01	7.1817E+01
A	2.8957E+00	4.8905E+00	4.8905E+00
S	1.4498E+00	1.5249E+00	1.5249E+00
Z	1.4237E+00	1.4477E+00	1.4477E+00
GAME	8.1328E-01	1.0041E+00	1.0041E+00
U	1.1877E+01	2.0723E+00	2.0723E+00

SPECIES	MOLE FRACTIONS	
E-	2.7848E-08	2.4317E-07
HF	2.8485E-01	2.1267E-01
HF+	1.6605E-21	2.0377E-19
M	7.0327E-79	4.5155E-79
M+	8.9226E-01	7.8400E-01
M2	2.7848E-08	2.4317E-07
	1.8880E-01	1.6355E-03
		1.6009E-07
		2.0879E-01
		1.2008E-04
		1.8184E-06
		7.8400E-01
		2.4317E-07
		1.0041E+00
		2.0723E+00

Table I. - Continued

$$P_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+02 N/SQ-M, U51 = 1.00E+04 M/SEC				P1 = 1.00E+02 N/SQ-M, U51 = 1.00E+04 M/SEC			

PI = 1.00E+02 N/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8800E+00	7.7043E+00	4.4457E+00
T	2.8397E+01	4.4115E+01	4.3217E+01
W	2.7822E+00	1.2189E+01	4.4511E+01
M	7.0001E+00	1.2209E+02	1.4511E+02
A	4.7484E+00	8.3465E+00	9.7467E+00
S	1.6510E+00	1.6000E+00	1.7510E+00
Z	1.4507E+00	1.7569E+00	1.8787E+00
GAME	1.0867E+00	8.4200E+01	8.5228E+01
U	1.4781E+00	4.7206E+00	4.4524E+00

SPECIES	MOLE FRACTIONS
E-	1.2149E-01
HF	1.8048E-01
HE+	2.4172E-04
HE++	3.2025E-17
H	5.7070E-01
M+	1.2149E-01
M2	1.1875E-05

PI = 1.00E+02 N/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2481E+00	7.7815E+00	4.4911E+00
T	2.9745E+01	4.8915E+01	4.4045E+01
W	8.4265E+00	7.1889E+01	4.2070E+01
M	7.9925E+01	1.3275E+02	1.4926E+02
A	7.4982E+00	4.4332E+00	9.7148E+00
S	1.4765E+00	1.7285E+00	1.7828E+00
Z	1.6270E+00	1.8072E+00	1.9268E+00
GAME	1.0012E+00	8.4485E+01	8.5228E+01
U	1.4781E+00	4.7206E+00	4.4524E+00

SPECIES	MOLE FRACTIONS
E-	1.4389E-01
HF	1.8174E-01
HE+	4.1283E-04
HE++	1.8595E-14
H	5.3145E-01
M+	1.4328E-01
M2	2.9897E-05

PI = 1.00E+02 N/50-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8800E+00	7.7043E+00	4.4457E+00
T	2.8397E+01	4.4115E+01	4.3217E+01
W	2.7822E+00	1.2189E+01	4.4511E+01
M	7.0001E+00	1.2209E+02	1.4511E+02
A	4.7484E+00	8.3465E+00	9.7467E+00
S	1.6510E+00	1.6000E+00	1.7510E+00
Z	1.4507E+00	1.7569E+00	1.8787E+00
GAME	1.0867E+00	8.4200E+01	8.5228E+01
U	1.4781E+00	4.7206E+00	4.4524E+00

SPECIES	MOLE FRACTIONS
E-	1.4022E-02
HF	2.0007E-01
HE+	7.7106E-07
HE++	2.4444E-14
H	7.4288E-01
M+	1.6421E-01
M2	2.7039E-06

PI = 1.00E+02 N/50-M, US1 = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2314E+00	7.7808E+00	4.7459E+00
T	1.6074E+01	4.0046E+01	4.9411E+01
W	1.7245E+01	2.4424E+01	4.3803E+01
M	7.4982E+00	1.0100E+00	1.3288E+00
A	7.4982E+00	7.0445E+00	8.7018E+00
S	1.4765E+00	1.4330E+00	1.6031E+00
Z	1.6270E+00	1.4050E+00	1.7000E+00
GAME	1.0012E+00	8.4485E+01	8.5228E+01
U	1.4781E+00	4.7206E+00	4.4524E+00

SPECIES	MOLE FRACTIONS
E-	7.4608E-01
HF	1.9535E-01
HE+	8.2232E-04
HE++	4.2222E-10
H	4.6715E-01
M+	7.8415E-02
M2	0.5236E-05

Table I. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P ₁ = 1.00E+02 N/SQ-M, US1 = 2.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.649E+02	2.578E+02	4.725E+02
T	7.223E+01	4.050E+01	4.706E+01
PHN	8.345E+01	7.184E+01	4.182E+01
M	8.497E+01	7.443E+02	1.879E+02
B	7.181E+01	8.927E+01	9.818E+01
S	1.704E+00	1.875E+00	1.817E+00
Z	1.470E+00	1.871E+00	1.978E+00
GME	9.298E+01	8.810E+01	8.827E+01
U	1.669E+01	6.279E+01	4.170E+01
SPHERES			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E	1.788E+02	1.099E+01	1.464E+01
MF	7.907E+01	1.888E+01	1.743E+01
ME	1.773E+01	1.488E+01	6.872E+01
ME+	2.101E+00	2.276E+01	1.093E+01
M	7.447E+01	8.920E+01	4.946E+01
M+	1.728E+01	1.094E+01	1.486E+01
M2	9.126E+01	6.679E+01	3.138E+01

P ₁ = 1.00E+02 N/SQ-M, US1 = 2.50E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.007E+02	4.015E+02	4.175E+02
T	4.038E+01	4.713E+01	4.382E+01
PHN	8.524E+01	7.500E+01	4.474E+01
M	1.094E+02	1.900E+02	7.253E+02
B	7.747E+01	9.813E+01	1.787E+01
S	1.779E+00	1.841E+00	1.903E+00
Z	1.744E+00	2.007E+00	2.141E+00
GME	8.520E+01	8.127E+01	8.578E+01
U	1.902E+01	4.436E+01	4.470E+01
SPHERES			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E	5.412E+02	1.781E+01	2.262E+01
MF	2.074E+01	1.730E+01	1.894E+01
ME	7.012E+01	7.340E+01	2.498E+03
ME+	2.074E+02	1.221E+01	1.280E+01
M	5.010E+01	4.700E+01	3.674E+01
M+	5.411E+02	1.774E+01	2.240E+01
M2	2.402E+02	2.425E+01	1.885E+01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued
 $P_1 = 100 \text{ N/m}^2$

$P_1 = 1.00 \times 10^2 \text{ N/50.00}$ $U_{S1} = 2.00 \times 10^4 \text{ M/SEC}$				$P_1 = 1.00 \times 10^2 \text{ N/50.00}$ $U_{S1} = 2.00 \times 10^4 \text{ M/SEC}$			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.502E+02	6.642E+02	9.763E+02	P	1.000E+02	7.840E+02	1.172E+04
T	4.510E+01	6.270E+01	7.118E+01	T	7.092E+01	7.207E+01	8.170E+01
PHN	0.048E+00	2.914E+01	4.912E+01	PHN	0.708E+00	4.413E+01	4.470E+01
M	1.372E+02	2.640E+02	2.958E+02	M	1.702E+02	3.173E+02	3.887E+02
A	9.271E+01	1.092E+02	1.204E+02	A	9.271E+01	1.227E+02	1.248E+02
S	1.842E+00	1.020E+00	1.994E+00	S	1.842E+00	2.047E+00	2.118E+00
Z	1.842E+00	2.181E+00	2.342E+00	Z	2.000E+00	2.457E+00	2.457E+00
GAME	8.340E-01	8.881E-01	8.881E-01	GAME	8.340E-01	8.881E-01	8.881E-01
U	2.147E+01	4.987E+01	4.858E+01	U	2.474E+01	5.531E+01	5.447E+01
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.067E-01	2.448E-01	2.014E-01	E-	1.774E-01	2.220E-01	2.712E-01
He	1.067E-01	1.474E-01	1.402E-01	He	1.774E-01	1.474E-01	1.474E-01
He+	5.403E-01	2.440E-01	2.894E-01	He+	2.940E-01	1.842E-01	2.692E-01
He++	3.500E-00	1.570E-01	1.014E-01	He++	1.804E-01	2.840E-01	1.787E-01
U	5.984E-01	2.264E-01	2.442E-01	U	4.712E-01	2.247E-01	1.643E-01
U+	1.064E-01	2.422E-01	2.921E-01	U+	1.742E-01	3.126E-01	3.677E-01
U2	1.882E-01	1.772E-01	2.155E-01	U2	9.674E-01	4.674E-01	2.184E-01

P1 = 1.00E+02 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.177E+02	1.177E+02	1.177E+02
T	2.35E+01	2.35E+01	2.35E+01
PHO	1.011E+01	1.011E+01	1.011E+01
M	2.023E+02	2.023E+02	2.023E+02
A	9.69E+00	1.211E+01	1.46E+01
S	1.08E+00	2.007E+00	2.181E+00
Z	2.007E+00	2.007E+00	2.007E+00
GAME	9.27E+01	8.631E+01	8.631E+01
U	2.04E+01	2.04E+01	2.04E+01

SPECIES	MOLE FRACTIONS
E-	2.118E-01
HE	1.44E-01
ME+	9.07E-04
ME++	2.11E-14
M	4.09E-01
M+	2.11E-01
M2	2.44E-04

P1 = 1.00E+02 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.177E+02	1.177E+02	1.177E+02
T	2.35E+01	2.35E+01	2.35E+01
PHO	1.011E+01	1.011E+01	1.011E+01
M	2.023E+02	2.023E+02	2.023E+02
A	9.69E+00	1.211E+01	1.46E+01
S	1.08E+00	2.007E+00	2.181E+00
Z	2.007E+00	2.007E+00	2.007E+00
GAME	9.27E+01	8.631E+01	8.631E+01
U	2.04E+01	2.04E+01	2.04E+01

SPECIES	MOLE FRACTIONS
E-	2.118E-01
HE	1.44E-01
ME+	9.07E-04
ME++	2.11E-14
M	4.09E-01
M+	2.11E-01
M2	2.44E-04

P1 = 1.00E+02 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.177E+02	1.177E+02	1.177E+02
T	2.35E+01	2.35E+01	2.35E+01
PHO	1.011E+01	1.011E+01	1.011E+01
M	2.023E+02	2.023E+02	2.023E+02
A	9.69E+00	1.211E+01	1.46E+01
S	1.08E+00	2.007E+00	2.181E+00
Z	2.007E+00	2.007E+00	2.007E+00
GAME	9.27E+01	8.631E+01	8.631E+01
U	2.04E+01	2.04E+01	2.04E+01

SPECIES	MOLE FRACTIONS
E-	2.118E-01
HE	1.44E-01
ME+	9.07E-04
ME++	2.11E-14
M	4.09E-01
M+	2.11E-01
M2	2.44E-04

P1 = 1.00E+02 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.177E+02	1.177E+02	1.177E+02
T	2.35E+01	2.35E+01	2.35E+01
PHO	1.011E+01	1.011E+01	1.011E+01
M	2.023E+02	2.023E+02	2.023E+02
A	9.69E+00	1.211E+01	1.46E+01
S	1.08E+00	2.007E+00	2.181E+00
Z	2.007E+00	2.007E+00	2.007E+00
GAME	9.27E+01	8.631E+01	8.631E+01
U	2.04E+01	2.04E+01	2.04E+01

SPECIES	MOLE FRACTIONS
E-	2.118E-01
HE	1.44E-01
ME+	9.07E-04
ME++	2.11E-14
M	4.09E-01
M+	2.11E-01
M2	2.44E-04

Table L - Continued
 $P_1 = 100 \text{ N/m}^2$

$P_1 = 1.00E+02 \text{ N/SQ-M, USI} = 2.80E+04 \text{ M/SEC}$				$P_1 = 1.00E+02 \text{ N/SQ-M, USI} = 4.40E+04 \text{ M/SEC}$			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK		MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
E-	2.7724E-01	4.1318E-01	4.5573E-01	E-	2.6143E-01	4.7813E-01	4.0710E-01
HF	1.9135E-01	7.8498E-02	3.7436E-02	HF	1.2642E-01	1.9749E-02	1.0344E-02
HE+	1.9448E-02	4.5979E-02	7.8015E-02	HE+	1.0021E-02	9.1588E-03	1.0344E-02
HE+	1.8755E-14	1.2240E-08	4.7324E-07	HE+	7.0688E-13	2.7140E-06	5.2621E-02
H	2.9397E-01	9.5143E-02	5.1104E-02	H	1.8171E-01	3.0032E-02	5.0488E-03
M+	2.7539E-01	2.6720E-01	2.7771E-01	M+	2.8141E-01	2.8232E-01	2.9111E-01
M2	3.0899E-04	7.9723E-07	2.4026E-07	M2	4.9244E-07	4.5504E-04	1.4336E-09
P	1.4227E+03	1.2137E+04	1.8090E+04	P	1.9144E+03	1.4798E+04	2.4242E+04
T	5.8709E+01	8.7790E+01	1.0122E+02	T	6.7220E+01	1.0843E+02	1.2371E+02
RMN	1.0614E+01	4.9147E+01	5.8951E+01	RMN	1.0022E+01	4.9283E+01	5.2024E+01
M	2.5277E+02	4.5143E+02	5.5245E+02	M	1.0022E+02	6.0022E+02	7.0714E+02
A	1.0637E+01	1.4437E+01	1.6644E+01	A	1.2174E+01	1.7952E+01	2.3098E+01
S	2.0824E+00	2.2142E+00	2.3077E+00	S	2.2245E+00	2.3841E+00	2.4949E+00
Z	2.2832E+00	2.6118E+00	3.0316E+00	Z	2.5893E+00	3.1424E+00	3.2814E+00
GAME	8.4412E-01	8.6794E-01	9.0294E-01	GAME	8.5303E-01	9.4548E-01	1.0780E+00
U	2.9664E+01	6.4092E+00	6.5122E+00	U	2.4470E+01	7.7140E+00	9.7559E+00

P1 = 1.00E+02 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.770E+02	1.265E+04	2.053E+04
T	6.140E+01	9.362E+01	1.116E+02
PHO	1.579E+01	6.009E+01	5.840E+01
M	2.800E+02	6.009E+02	6.167E+02
A	1.113E+01	1.571E+01	1.832E+01
S	2.132E+00	2.372E+00	2.371E+00
Z	2.387E+00	2.902E+00	3.145E+00
GAME	4.800E+01	8.790E+01	9.551E+01
U	3.127E+01	6.784E+00	7.087E+00

SPECIES	MOLE FRACTIONS		
F-	3.01E-01	4.34E-01	4.761E-01
HF	1.434E-01	5.740E-02	1.807E-02
HE+	3.411E-03	6.744E-02	9.205E-02
ME+	1.403E-13	7.536E-08	4.22E-06
M	2.41E-01	6.918E-02	2.013E-02
M+	3.041E-01	3.748E-01	3.870E-01
M2	1.080E-04	4.945E-07	7.368E-08

P1 = 1.00E+02 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.792E+02	1.523E+04	3.328E+04
T	6.425E+01	1.000E+02	1.280E+02
PHO	1.092E+01	6.918E+01	6.570E+01
M	3.087E+02	6.232E+02	6.809E+02
A	1.165E+01	1.564E+01	3.082E+01
S	2.182E+00	2.370E+00	2.458E+00
Z	2.483E+00	3.043E+00	3.237E+00
GAME	8.914E+01	9.012E+01	1.044E+02
U	3.289E+01	7.160E+00	7.068E+00

SPECIES	MOLE FRACTIONS		
F-	3.361E-01	4.577E-01	4.003E-01
HF	1.350E-01	3.450E-02	6.061E-02
HE+	6.804E-03	7.824E-02	1.019E-01
ME+	1.018E-12	6.210E-07	6.843E-07
M	1.927E+01	4.777E-02	1.255E-02
M+	3.297E+01	3.794E+01	3.882E+01
M2	1.164E-04	1.822E-07	1.379E-08

P1 = 1.00E+02 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.092E+02	1.922E+04	2.918E+04
T	7.038E+01	1.201E+02	1.783E+02
PHO	1.000E+01	6.912E+01	6.019E+01
M	3.703E+02	4.412E+02	8.214E+02
A	1.269E+01	1.993E+01	2.248E+01
S	2.28E+00	2.420E+00	2.547E+00
Z	2.697E+00	3.227E+00	3.314E+00
GAME	8.537E+01	1.015E+02	9.418E+01
U	3.605E+01	9.400E+00	1.073E+01

SPECIES	MOLE FRACTIONS		
F-	3.868E-01	4.874E-01	4.026E-01
HF	1.135E-01	8.576E-02	9.591E-04
HE+	1.454E-02	1.001E-01	9.568E-02
ME+	4.570E-13	2.298E-08	8.091E-02
M	1.528E-01	1.528E-02	3.892E-01
M+	3.482E-01	3.871E-01	3.892E-01
M2	3.862E-07	1.473E-08	3.811E-10

P1 = 1.00E+02 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.290E+02	1.552E+04	3.200E+04
T	7.348E+01	1.258E+02	1.909E+02
PHO	1.114E+01	4.411E+01	4.901E+01
M	4.070E+02	7.174E+02	9.217E+02
A	1.230E+01	2.180E+01	2.423E+01
S	2.314E+00	2.687E+00	2.691E+00
Z	2.774E+00	3.223E+00	3.263E+00
GAME	8.537E+01	1.077E+02	9.418E+01
U	3.768E+01	9.220E+00	1.071E+01

SPECIES	MOLE FRACTIONS		
F-	1.797E-01	4.564E-01	4.003E-01
HF	1.390E-01	2.357E-02	6.061E-02
HE+	7.857E-03	1.077E-01	8.207E-02
ME+	4.715E-13	2.261E-04	2.349E-07
M	9.891E-02	7.054E-02	1.860E-02
M+	3.700E+01	3.892E+01	3.864E-01
M2	3.355E-07	3.261E-08	1.473E-10

Table I. - Continued
 $p_1 = 100 \text{ N/m}^2$

$p_1 = 1.00 \times 10^5 \text{ N/SQ-M}$				$p_1 = 1.00 \times 10^5 \text{ N/SQ-M}$			
US = 0.00E+00 M/SEC				US = 0.00E+00 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P				P			
T				T			
RHO				RHO			
M				M			
A				A			
S				S			
Z				Z			
GAME				GAME			
U				U			
SERIES				SERIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.7402E-01	4.0812E-01	5.1718E-01	E-	4.7202E-01	4.1404E-01	5.2808E-01
HE	9.3809E-02	1.5221E-03	4.8092E-04	HE	9.0981E-02	4.2314E-04	8.8460E-04
ME+	3.8124E-01	1.0318E-01	6.8748E-02	ME+	3.8112E-02	7.2740E-02	1.0339E-02
ME+	1.3865E-09	1.7888E-03	1.6511E-03	ME+	1.3681E-07	2.9995E-02	7.8407E-02
H	4.5284E-02	7.5878E-03	1.4511E-03	H	2.4643E-03	1.3642E-03	7.1313E-04
M+	3.8488E-01	2.9144E-01	3.7898E-01	M+	3.8101E-01	3.8101E-01	3.8202E-01
M+	1.1774E-07	7.0464E-10	9.9122E-11	M+	1.1108E-09	6.6859E-11	2.2642E-11

[illegible][illegible]

NAME	STANDING NUMBER	REGISTERED USER NUMBER	DATE	TIME
1	1000000000	1000000000	10/10/10	10:10
2	1000000000	1000000000	10/10/10	10:10
3	1000000000	1000000000	10/10/10	10:10
4	1000000000	1000000000	10/10/10	10:10
5	1000000000	1000000000	10/10/10	10:10
6	1000000000	1000000000	10/10/10	10:10
7	1000000000	1000000000	10/10/10	10:10
8	1000000000	1000000000	10/10/10	10:10
9	1000000000	1000000000	10/10/10	10:10
10	1000000000	1000000000	10/10/10	10:10

[illegible]

NAME	ADDRESS	TELEPHONE	DATE
Mr. J. H. Smith	123 Main St.	456-7890	10/15/55
Mr. W. R. Jones	456 Elm St.	789-0123	10/16/55
Mr. C. D. Brown	789 Oak St.	012-3456	10/17/55
Mr. E. F. Green	012 Pine St.	345-6789	10/18/55
Mr. G. H. White	345 Cedar St.	678-9012	10/19/55
Mr. I. J. Black	678 Birch St.	901-2345	10/20/55
Mr. K. L. Gray	901 Spruce St.	234-5678	10/21/55
Mr. M. N. Hall	234 Fir St.	567-8901	10/22/55
Mr. O. P. King	567 Willow St.	890-1234	10/23/55
Mr. Q. R. Lee	890 Ash St.	123-4567	10/24/55
Mr. S. T. Scott	123 Hickory St.	456-7890	10/25/55
Mr. U. V. Walker	456 Maple St.	789-0123	10/26/55
Mr. W. X. Young	789 Poplar St.	012-3456	10/27/55
Mr. Y. Z. Adams	012 Sycamore St.	345-6789	10/28/55
Mr. A. B. Baker	345 Chestnut St.	678-9012	10/29/55
Mr. C. D. Carter	678 Walnut St.	901-2345	10/30/55
Mr. E. F. Evans	901 Pecan St.	234-5678	10/31/55
Mr. G. H. Fisher	234 Cherry St.	567-8901	11/01/55
Mr. I. J. Gibson	567 Plum St.	890-1234	11/02/55
Mr. K. L. Hall	890 Peach St.	123-4567	11/03/55
Mr. M. N. Harris	123 Apple St.	456-7890	11/04/55
Mr. O. P. King	456 Orange St.	789-0123	11/05/55
Mr. Q. R. Lee	789 Lemon St.	012-3456	11/06/55
Mr. S. T. Scott	012 Lime St.	345-6789	11/07/55
Mr. U. V. Walker	345 Grape St.	678-9012	11/08/55
Mr. W. X. Young	678 Strawberry St.	901-2345	11/09/55
Mr. Y. Z. Adams	901 Blueberry St.	234-5678	11/10/55
Mr. A. B. Baker	234 Raspberry St.	567-8901	11/11/55
Mr. C. D. Carter	567 Blackberry St.	890-1234	11/12/55
Mr. E. F. Evans	890 Elderberry St.	123-4567	11/13/55
Mr. G. H. Fisher	123 Mulberry St.	456-7890	11/14/55
Mr. I. J. Gibson	456 Currant St.	789-0123	11/15/55
Mr. K. L. Hall	789 Gooseberry St.	012-3456	11/16/55
Mr. M. N. Harris	012 Loganberry St.	345-6789	11/17/55
Mr. O. P. King	345 Boysenberry St.	678-9012	11/18/55
Mr. Q. R. Lee	678 Marionberry St.	901-2345	11/19/55
Mr. S. T. Scott	901 Tayberry St.	234-5678	11/20/55
Mr. U. V. Walker	234 Uva Ursi St.	567-8901	11/21/55
Mr. W. X. Young	567 Salal St.	890-1234	11/22/55
Mr. Y. Z. Adams	890 Snowberry St.	123-4567	11/23/55
Mr. A. B. Baker	123 Salmonberry St.	456-7890	11/24/55
Mr. C. D. Carter	456 Huckleberry St.	789-0123	11/25/55
Mr. E. F. Evans	789 Elderberry St.	012-3456	11/26/55
Mr. G. H. Fisher	012 Serviceberry St.	345-6789	11/27/55
Mr. I. J. Gibson	345 Amelanchier St.	678-9012	11/28/55
Mr. K. L. Hall	678 Opuntia St.	901-2345	11/29/55
Mr. M. N. Harris	901 Rhamnus St.	234-5678	11/30/55
Mr. O. P. King	234 Lonicera St.	567-8901	12/01/55
Mr. Q. R. Lee	567 Asarum St.	890-1234	12/02/55
Mr. S. T. Scott	890 Thymus St.	123-4567	12/03/55
Mr. U. V. Walker	123 Origanum St.	456-7890	12/04/55
Mr. W. X. Young	456 Echinacea St.	789-0123	12/05/55
Mr. Y. Z. Adams	789 Valerian St.	012-3456	12/06/55
Mr. A. B. Baker	012 Angelica St.	345-6789	12/07/55
Mr. C. D. Carter	345 Gentian St.	678-9012	12/08/55
Mr. E. F. Evans	678 Primula St.	901-2345	12/09/55
Mr. G. H. Fisher	901 Ranunculus St.	234-5678	12/10/55
Mr. I. J. Gibson	234 Anemone St.	567-8901	12/11/55
Mr. K. L. Hall	567 Paeonia St.	890-1234	12/12/55
Mr. M. N. Harris	890 Poppy St.	123-4567	12/13/55
Mr. O. P. King	123 Camellia St.	456-7890	12/14/55
Mr. Q. R. Lee	456 Hibiscus St.	789-0123	12/15/55
Mr. S. T. Scott	789 Begonia St.	012-3456	12/16/55
Mr. U. V. Walker	012 Fuchsia St.	345-6789	12/17/55
Mr. W. X. Young	345 Geranium St.	678-9012	12/18/55
Mr. Y. Z. Adams	678 Impatiens St.	901-2345	12/19/55
Mr. A. B. Baker	901 Lupinus St.	234-5678	12/20/55
Mr. C. D. Carter	234 Verb		

Table I. - Continued
 $P_1 = 100 \text{ N/m}^2$

$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US = 4.20E+04 \text{ W/SEC}$				$P_1 = 1.00E+02 \text{ N/SQ-M}, \quad US = 4.80E+04 \text{ W/SEC}$			
MOVING SHOCK		STANDING SHOCK		MOVING SHOCK		STANDING SHOCK	
REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK	
D	6.73E+04	D	6.73E+04	D	4.41E+04	D	7.80E+04
T	1.16E+03	T	2.24E+03	T	1.55E+03	T	7.44E+02
QMN	0.78E+00	QMN	3.4A70E+01	QMN	8.8E+00	QMN	7.8E+01
M	4.70E+00	M	1.11E+02	M	8.00E+00	M	7.12E+01
A	7.03E+01	A	2.71E+01	A	7.00E+01	A	1.21E+02
S	7.47E+00	S	2.40E+00	S	7.70E+00	S	7.90E+00
Z	7.27E+00	Z	2.40E+00	Z	7.70E+00	Z	7.90E+00
GAME	1.07E+00	GAME	0.20E+01	GAME	0.20E+01	GAME	1.07E+00
U	4.75E+01	U	1.24E+01	U	4.17E+01	U	1.50E+01
SPECIES				SPECIES			
MILE FRACTIONS				MILE FRACTIONS			
E-	4.947E-01	E-	8.347E-01	E-	5.00E-01	E-	5.47E-01
ME	2.42E-02	ME	1.70E-04	ME	2.80E-01	ME	1.50E-01
ME+	1.04E-01	ME+	3.04E-02	ME+	0.00E+00	ME+	7.00E-04
ME++	4.81E-02	ME++	9.83E-02	ME++	0.00E+00	ME++	9.66E-02
M	6.19E-02	M	7.00E-04	M	9.00E-02	M	7.91E-02
M0	2.92E-01	M0	2.44E-01	M0	2.90E-01	M0	2.54E-01
M2	7.40E-10	M2	1.00E-12	M2	4.00E-10	M2	1.50E-12

P1 = 1.00E+02 N/50-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.7021E+03	2.9001E+04	5.3942E+04
T	1.6444E+02	2.9200E+02	4.9039E+02
PHD	8.5143E+00	2.7298E+01	3.0144E+01
M	8.5112E+02	1.4571E+03	2.0411E+03
A	2.2240E+01	3.4281E+01	4.5136E+01
S	2.8114E+00	2.9122E+00	3.0217E+00
Z	3.3575E+00	3.6788E+00	3.6491E+00
GPMF	8.9441E-01	1.1037E+00	1.1397E+00
U	9.3248E+01	1.6532E+01	2.0952E+01

SPECIES	MOLE FRACTIONS
E-	5.48E+04E-01
HE	2.0142E-04
HE+	8.5112E-02
HE++	1.7974E-02
H	4.1811E-04
H+	3.8488E-01
H2	3.4779E-12
	1.1787E-12
	5.4789E-01
	6.7052E-00
	1.8990E-04
	9.5724E-02
	5.5302E-05
	3.5620E-01
	7.7278E-14

P1 = 1.00E+02 N/50-M, US1 = 4.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9497E+03	5.7189E+04	4.7472E+04
T	1.3124E+02	2.3404E+02	3.4562E+02
PHD	9.1862E+00	3.7194E+01	3.8758E+01
M	7.1333E+02	1.9388E+03	1.4804E+03
A	2.1434E+01	2.8547E+01	3.8844E+01
S	2.7109E+00	2.8101E+00	2.9246E+00
Z	3.2022E+00	3.4775E+00	3.4465E+00
GPMF	1.0838E+00	9.6490E-01	1.1330E+00
U	4.9158E+01	1.4022E+01	1.4975E+01

SPECIES	MOLE FRACTIONS
E-	4.9881E-01
HE	9.1471E-04
HE+	1.0441E-01
HE++	1.9589E-02
H	7.8181E-02
H+	5.4930E-04
H2	2.0444E-03
	3.4283E-01
	8.9994E-12
	5.4751E-01
	1.0182E-04
	8.2382E-04
	9.5159E-02
	1.4654E-04
	3.8434E-01
	4.8642E-12

P1 = 1.00E+02 N/50-M, US1 = 4.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1044E+03	2.7815E+04	4.8615E+04
T	1.4473E+02	2.9073E+02	4.0377E+02
PHD	8.7735E+00	3.0237E+01	3.2004E+01
M	7.7734E+02	1.4087E+03	1.7946E+03
A	2.1964E+01	3.0274E+01	4.0164E+01
S	2.7645E+00	2.8470E+00	2.9411E+00
Z	3.2049E+00	3.4077E+00	3.4480E+00
GPMF	1.0000E+00	1.0137E+00	1.1244E+00
U	5.0401E+01	1.4617E+01	1.8747E+01

SPECIES	MOLE FRACTIONS
E-	5.4749E-01
HE	2.0142E-04
HE+	8.5112E-02
HE++	1.7974E-02
H	4.1811E-04
H+	3.8488E-01
H2	3.4779E-12
	1.1787E-12
	5.4749E-01
	2.0142E-04
	8.5112E-02
	1.7974E-02
	4.1811E-04
	3.8488E-01
	3.4779E-12
	1.1787E-12

Table I. - Continued
 $P_1 = 200 \text{ N/m}^2$

$P_1 = 2.000002 \text{ N/CM}^2$ $U_{SI} = 4.000000 \text{ M/SEC}$				$P_1 = 2.000000 \text{ N/CM}^2$ $U_{SI} = 2.000000 \text{ M/SEC}$			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.3047E-01	2.874E-01	7.201E-01	E-	1.400E-12	1.722E-11	2.260E-10
HE	2.0000E-01	4.0730E-01	4.0720E-01	HE	2.400E-01	2.3127E-01	2.474E-01
HE+	2.467E-02	2.467E-02	1.1147E-01	HE+	2.400E-01	2.400E-01	1.273E-02
HE++	0.	0.	0.	HE++	0.	0.	0.
H	2.0000E-01	4.0730E-01	4.0730E-01	H	2.400E-01	1.0700E-01	1.801E-01
H+	2.467E-02	2.467E-02	2.467E-02	H+	2.400E-01	1.7798E-01	2.7450E-01
H2	2.0000E-01	4.0730E-01	4.0730E-01	H2	2.400E-01	2.471E-01	4.0720E-01
P	2.0000E-01	2.0000E-01	2.0000E-01	P	4.400E-01	1.0000E-01	1.0000E-01
T	2.0000E-01	2.0000E-01	2.0000E-01	T	4.400E-01	1.0000E-01	1.0000E-01
OH	2.0000E-01	2.0000E-01	2.0000E-01	OH	4.400E-01	1.0000E-01	1.0000E-01
M	2.0000E-01	2.0000E-01	2.0000E-01	M	4.400E-01	1.0000E-01	1.0000E-01
A	2.0000E-01	2.0000E-01	2.0000E-01	A	4.400E-01	1.0000E-01	1.0000E-01
S	2.0000E-01	2.0000E-01	2.0000E-01	S	4.400E-01	1.0000E-01	1.0000E-01
Z	2.0000E-01	2.0000E-01	2.0000E-01	Z	4.400E-01	1.0000E-01	1.0000E-01
GAME	2.0000E-01	2.0000E-01	2.0000E-01	GAME	4.400E-01	1.0000E-01	1.0000E-01
U	2.0000E-01	2.0000E-01	2.0000E-01	U	4.400E-01	1.0000E-01	1.0000E-01

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

PI = 2.00E+02 M/SEC US1 = 4.00E+03 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.202E+00	4.651E+00	1.254E+02
T	4.987E+00	8.088E+00	8.088E+00
PHC	4.413E+00	7.093E+00	1.441E+01
M	5.172E+00	2.487E+00	1.012E+01
N	2.199E+00	1.007E+00	2.781E+00
A	1.092E+00	1.000E+00	1.114E+00
S	1.000E+00	0.293E+01	1.014E+00
Z	9.09E+00	1.73E+00	8.421E+01
GAME	3.236E+00		1.471E+00
U			

PI = 2.00E+02 M/SEC US1 = 4.00E+03 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.202E+00	4.651E+00	1.254E+02
T	4.987E+00	8.088E+00	8.088E+00
PHC	4.413E+00	7.093E+00	1.441E+01
M	5.172E+00	2.487E+00	1.012E+01
N	2.199E+00	1.007E+00	2.781E+00
A	1.092E+00	1.000E+00	1.114E+00
S	1.000E+00	0.293E+01	1.014E+00
Z	9.09E+00	1.73E+00	8.421E+01
GAME	3.236E+00		1.471E+00
U			

PI = 2.00E+02 M/SEC US1 = 4.00E+03 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.202E+00	4.651E+00	1.254E+02
T	4.987E+00	8.088E+00	8.088E+00
PHC	4.413E+00	7.093E+00	1.441E+01
M	5.172E+00	2.487E+00	1.012E+01
N	2.199E+00	1.007E+00	2.781E+00
A	1.092E+00	1.000E+00	1.114E+00
S	1.000E+00	0.293E+01	1.014E+00
Z	9.09E+00	1.73E+00	8.421E+01
GAME	3.236E+00		1.471E+00
U			

PI = 2.00E+02 M/SEC US1 = 4.00E+03 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.202E+00	4.651E+00	1.254E+02
T	4.987E+00	8.088E+00	8.088E+00
PHC	4.413E+00	7.093E+00	1.441E+01
M	5.172E+00	2.487E+00	1.012E+01
N	2.199E+00	1.007E+00	2.781E+00
A	1.092E+00	1.000E+00	1.114E+00
S	1.000E+00	0.293E+01	1.014E+00
Z	9.09E+00	1.73E+00	8.421E+01
GAME	3.236E+00		1.471E+00
U			

PI = 2.00E+02 M/SEC US1 = 4.00E+03 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.202E+00	4.651E+00	1.254E+02
T	4.987E+00	8.088E+00	8.088E+00
PHC	4.413E+00	7.093E+00	1.441E+01
M	5.172E+00	2.487E+00	1.012E+01
N	2.199E+00	1.007E+00	2.781E+00
A	1.092E+00	1.000E+00	1.114E+00
S	1.000E+00	0.293E+01	1.014E+00
Z	9.09E+00	1.73E+00	8.421E+01
GAME	3.236E+00		1.471E+00
U			

PI = 2.00E+02 M/SEC US1 = 4.00E+03 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.202E+00	4.651E+00	1.254E+02
T	4.987E+00	8.088E+00	8.088E+00
PHC	4.413E+00	7.093E+00	1.441E+01
M	5.172E+00	2.487E+00	1.012E+01
N	2.199E+00	1.007E+00	2.781E+00
A	1.092E+00	1.000E+00	1.114E+00
S	1.000E+00	0.293E+01	1.014E+00
Z	9.09E+00	1.73E+00	8.421E+01
GAME	3.236E+00		1.471E+00
U			

Table I. - Continued
 $P_1 = 200 \text{ N/m}^2$

$P_1 = 2.00E+02 \text{ N/SQ-M, US1 = 1.00E+04 N/SEC}$				$P_1 = 2.00E+02 \text{ N/SQ-M, US1 = 1.00E+04 N/SEC}$			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	WAVE FRACTIONS			STANDING SHOCK	WAVE FRACTIONS	
E-	1.0261E-10	1.7599E-08	1.2617E-08	E-	1.4798E-01	2.4099E-01	7.8922E-01
ME	3.1478E-01	2.7649E-01	2.5990E-01	ME	1.7799E-01	2.2642E-01	2.1445E-01
ME+	6.9163E-27	2.8160E-21	1.4310E-19	ME+	1.0410E-01	5.7999E-01	3.4218E-12
M	0.	1.0664E-78	6.9338E-72	M	1.0664E-01	2.5899E-01	2.5899E-01
M+	2.0124E-01	4.1971E-01	8.1486E-01	M+	1.7799E-01	2.2642E-01	7.8922E-01
M2	1.0361E-10	1.7649E-01	8.2617E-08	M2	1.0410E-01	5.7999E-01	3.4218E-12
	4.8396E-01	2.0374E-01	2.2624E-01		1.0664E-01	2.5899E-01	2.5899E-01
P	9.4562E+01	4.3434E+02	9.3276E+02	P	1.4798E-01	2.4099E-01	7.8922E-01
T	1.9341E+01	1.2470E+01	1.4620E+01	T	1.7799E-01	2.2642E-01	2.1445E-01
RND	8.2335E+00	3.7210E+01	4.7392E+01	RND	1.0410E-01	5.7999E-01	3.4218E-12
M	1.8332E+01	3.1244E+01	3.7628E+01	M	1.0664E-01	2.5899E-01	2.5899E-01
A	3.0500E+00	3.7236E+00	4.0333E+00	A	1.7799E-01	2.2642E-01	7.8922E-01
S	1.2434E+00	1.2930E+00	1.3332E+00	S	1.0410E-01	5.7999E-01	3.4218E-12
Z	1.1119E+00	1.2646E+00	1.3467E+00	Z	1.7799E-01	2.2642E-01	7.8922E-01
GAME	7.9369E-01	8.1332E-01	8.2617E-01	GAME	1.0410E-01	5.7999E-01	3.4218E-12
U	7.5721E+00	1.6770E+00	1.6920E+00	U	1.0664E-01	2.5899E-01	2.5899E-01

P1 = 2.00E+02 N/50-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0471E+03	1.762E+03	2.7187E+03
T	1.098E+03	2.093E+03	3.1829E+03
PHN	1.1194E+03	2.1438E+03	3.1713E+03
M	1.2204E+03	2.2442E+03	3.2885E+03
A	1.2753E+03	2.3079E+03	3.3647E+03
S	1.3078E+03	2.3533E+03	3.4229E+03
Z	1.3411E+03	2.4018E+03	3.4817E+03
GAME	1.3846E+03	2.4509E+03	3.5408E+03
U	1.4087E+03	2.4999E+03	3.5999E+03

SPECIES	WLF FRACTIONS
F-	1.6077E-08
ME	2.1478E-01
ME+	1.0038E-13
ME++	1.0110E-20
M	7.4401E-01
M+	2.5274E-08
M2	2.2083E-01

P1 = 2.00E+02 N/50-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.246E+02	2.000E+02	3.2117E+02
T	1.2471E+01	2.6280E+01	3.9112E+01
PHN	1.1538E+03	2.616E+01	3.0451E+01
M	1.0280E+03	7.1278E+01	3.2077E+01
A	1.0741E+02	2.8745E+00	3.0090E+00
S	1.4648E+00	1.5351E+00	1.5908E+00
Z	1.4113E+00	1.4645E+00	1.4714E+00
GAME	1.1811E-01	1.0035E+00	9.648E-01
U	1.1811E+01	2.6415E+00	3.5237E+00

SPECIES	WLF FRACTIONS
F-	4.7085E-07
ME	2.6815E-01
ME+	1.0018E-13
ME++	2.0018E-20
M	2.8707E-01
M+	4.7077E-08
M2	1.4013E-01

P1 = 2.00E+02 N/50-M, US1 = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1011E+02	1.7609E+02	1.6091E+01
T	1.1168E+01	1.4644E+01	5.4067E+01
PHN	9.1170E+00	4.3904E+01	4.4744E+01
M	2.2235E+01	3.8177E+01	4.4478E+01
A	2.2005E+00	4.0480E+00	1.2874E+00
S	1.2802E+00	1.3424E+00	1.4432E+00
Z	1.1607E+00	1.3556E+00	1.4432E+00
GAME	7.9432E-01	1.2618E-01	8.4829E-01
U	8.4411E+00	1.7524E+00	1.7102E+00

SPECIES	WLF FRACTIONS
F-	4.7472E-10
ME	2.9118E-01
ME+	1.7762E-10
ME++	3.2486E-22
M	2.7692E-01
M+	4.7673E-10
M2	4.2143E-01

P1 = 2.00E+02 N/50-M, US1 = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4178E+02	1.1486E+02	1.4728E+02
T	1.1764E+01	1.0075E+01	1.8228E+01
PHN	9.9194E+00	4.5314E+01	5.8342E+01
M	2.6078E+01	4.5729E+01	5.4037E+01
A	3.5768E+00	4.4745E+00	5.0802E+00
S	1.3192E+00	1.3033E+00	1.4437E+00
Z	1.2154E+00	1.4714E+00	1.5743E+00
GAME	7.9718E-01	8.4734E-01	9.0033E-01
U	9.2999E+00	1.5494E+00	1.9074E+00

SPECIES	WLF FRACTIONS
F-	1.7304E-08
ME	2.4115E-01
ME+	1.0018E-13
ME++	2.0018E-20
M	1.7131E-01
M+	1.7354E-08
M2	1.4013E-01

Table 1. - Continued

 $P_1 = 200 \text{ N/m}^2$

$P_1 = 2.00000 \text{ N/SC-M, USIN 1.000000 M/SEC}$			
SPECIES	MOLE FRACTIONS		SPECIES
	MOVING SURF	STANDING SURF	
P	2.000000	2.000000	REFLECTED SURF
T	1.000000	1.000000	4.000000
PHN	1.000000	1.000000	4.000000
M	1.000000	1.000000	4.000000
A	1.000000	1.000000	4.000000
S	1.000000	1.000000	4.000000
Z	1.000000	1.000000	4.000000
NAME	1.000000	1.000000	4.000000
U	1.000000	1.000000	4.000000
$P_1 = 2.00000 \text{ N/SC-M, USIN 1.000000 M/SEC}$			
SPECIES	MOLE FRACTIONS		SPECIES
	MOVING SURF	STANDING SURF	
P	2.000000	2.000000	REFLECTED SURF
T	1.000000	1.000000	4.000000
PHN	1.000000	1.000000	4.000000
M	1.000000	1.000000	4.000000
A	1.000000	1.000000	4.000000
S	1.000000	1.000000	4.000000
Z	1.000000	1.000000	4.000000
NAME	1.000000	1.000000	4.000000
U	1.000000	1.000000	4.000000
$P_1 = 2.00000 \text{ N/SC-M, USIN 1.000000 M/SEC}$			
SPECIES	MOLE FRACTIONS		SPECIES
	MOVING SURF	STANDING SURF	
P	2.000000	2.000000	REFLECTED SURF
T	1.000000	1.000000	4.000000
PHN	1.000000	1.000000	4.000000
M	1.000000	1.000000	4.000000
A	1.000000	1.000000	4.000000
S	1.000000	1.000000	4.000000
Z	1.000000	1.000000	4.000000
NAME	1.000000	1.000000	4.000000
U	1.000000	1.000000	4.000000

235/m 70000°c = 1000
235/m 70000°c = 1000

[illegible][illegible]

$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$

[illegible]

Call Number	Author	Title	Year
44-38860-7	PO-30282	PO-30282	64
44-38860-8	PO-30282	PO-30282	64
44-38860-9	PO-30282	PO-30282	64
44-38860-10	PO-30282	PO-30282	64
44-38860-11	PO-30282	PO-30282	64
44-38860-12	PO-30282	PO-30282	64
44-38860-13	PO-30282	PO-30282	64
44-38860-14	PO-30282	PO-30282	64
44-38860-15	PO-30282	PO-30282	64
44-38860-16	PO-30282	PO-30282	64
44-38860-17	PO-30282	PO-30282	64
44-38860-18	PO-30282	PO-30282	64
44-38860-19	PO-30282	PO-30282	64
44-38860-20	PO-30282	PO-30282	64
44-38860-21	PO-30282	PO-30282	64
44-38860-22	PO-30282	PO-30282	64
44-38860-23	PO-30282	PO-30282	64
44-38860-24	PO-30282	PO-30282	64
44-38860-25	PO-30282	PO-30282	64
44-38860-26	PO-30282	PO-30282	64
44-38860-27	PO-30282	PO-30282	64
44-38860-28	PO-30282	PO-30282	64
44-38860-29	PO-30282	PO-30282	64
44-38860-30	PO-30282	PO-30282	64
44-38860-31	PO-30282	PO-30282	64
44-38860-32	PO-30282	PO-30282	64
44-38860-33	PO-30282	PO-30282	64
44-38860-34	PO-30282	PO-30282	64
44-38860-35	PO-30282	PO-30282	64
44-38860-36	PO-30282	PO-30282	64
44-38860-37	PO-30282	PO-30282	64
44-38860-38	PO-30282	PO-30282	64
44-38860-39	PO-30282	PO-30282	64
44-38860-40	PO-30282	PO-30282	64
44-38860-41	PO-30282	PO-30282	64
44-38860-42	PO-30282	PO-30282	64
44-38860-43	PO-30282	PO-30282	64
44-38860-44	PO-30282	PO-30282	64
44-38860-45	PO-30282	PO-30282	64
44-38860-46	PO-30282	PO-30282	64
44-38860-47	PO-30282	PO-30282	64
44-38860-48	PO-30282	PO-30282	64
44-38860-49	PO-30282	PO-30282	64
44-38860-50	PO-30282	PO-30282	64
44-38860-51	PO-30282	PO-30282	64
44-38860-52	PO-30282	PO-30282	64
44-38860-53	PO-30282	PO-30282	64
44-38860-54	PO-30282	PO-30282	64
44-38860-55	PO-30282	PO-30282	64
44-38860-56	PO-30282	PO-30282	64
44-38860-57	PO-30282	PO-30282	64
44-38860-58	PO-30282	PO-30282	64
44-38860-59	PO-30282	PO-30282	64
44-38860-60	PO-30282	PO-30282	64
44-38860-61	PO-30282	PO-30282	64
44-38860-62	PO-30282	PO-30282	64
44-38860-63	PO-30282	PO-30282	64
44-38860-64	PO-30282	PO-30282	64
44-38860-65	PO-30282	PO-30282	64
44-38860-66	PO-30282	PO-30282	64
44-38860-67	PO-30282	PO-30282	64
44-38860-68	PO-30282	PO-30282	64
44-38860-69	PO-30282	PO-30282	64
44-38860-70	PO-30282	PO-30282	64
44-38860-71	PO-30282	PO-30282	64
44-38860-72	PO-30282	PO-30282	64
44-38860-73	PO-30282	PO-30282	64
44-38860-74	PO-30282	PO-30282	64
44-38860-75	PO-30282	PO-30282	64
44-38860-76	PO-30282	PO-30282	

01 - 2.05/N 2.050° = 10
2.55/N 2.550° = 15

	WINNING SHOPS	STANDING SHOPS	REFLECTED SHOPS
B	2.0874e+02	2.4849e+03	4.7634e+03
T	1.0524e+01	2.4849e+00	4.0287e+01
Q	1.1914e+01	2.0074e+01	1.9727e+01
M	1.1401e+01	0.0246e+00	1.1091e+03
W	6.8800e+00	7.7777e+00	8.0404e+00
S	1.0744e+00	1.0104e+00	1.4731e+03
4	1.0744e+00	1.0104e+00	1.4731e+03
5	1.0744e+00	1.0104e+00	1.4731e+03
Z	1.5781e+00	1.6479e+00	1.0774e+00
U	1.2431e+01	4.0090e+00	2.0094e+00

Sales	Shipped & Run	Cost
2m	90-303000	20-300000
4m	60-303000	20-300000
6m	60-303000	20-300000
8m	60-303000	20-300000
10m	60-303000	20-300000
12m	60-303000	20-300000
14m	60-303000	20-300000
16m	60-303000	20-300000
18m	60-303000	20-300000
20m	60-303000	20-300000
22m	60-303000	20-300000
24m	60-303000	20-300000
26m	60-303000	20-300000
28m	60-303000	20-300000
30m	60-303000	20-300000
32m	60-303000	20-300000
34m	60-303000	20-300000
36m	60-303000	20-300000
38m	60-303000	20-300000
40m	60-303000	20-300000
42m	60-303000	20-300000
44m	60-303000	20-300000
46m	60-303000	20-300000
48m	60-303000	20-300000
50m	60-303000	20-300000
52m	60-303000	20-300000
54m	60-303000	20-300000
56m	60-303000	20-300000
58m	60-303000	20-300000
60m	60-303000	20-300000
62m	60-303000	20-300000
64m	60-303000	20-300000
66m	60-303000	20-300000
68m	60-303000	20-300000
70m	60-303000	20-300000
72m	60-303000	20-300000
74m	60-303000	20-300000
76m	60-303000	20-300000
78m	60-303000	20-300000
80m	60-303000	20-300000
82m	60-303000	20-300000
84m	60-303000	20-300000
86m	60-303000	20-300000
88m	60-303000	20-300000
90m	60-303000	20-300000
92m	60-303000	20-300000
94m	60-303000	20-300000
96m	60-303000	20-300000
98m	60-303000	20-300000
100m	60-303000	20-300000

US/IN 70430001, 215N 60-45/IN 60430002 - 10

[illegible][illegible]

Table I. - Continued

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SQ-M, US10 = 2.20E+04 M/SEC				P1 = 2.00E+02 N/SQ-M, US10 = 2.00E+04 M/SEC				
SPECIES	MOLE FRACTIONS		SPECIES	MOLE FRACTIONS		SPECIES	MOLE FRACTIONS	
	MOVING SHOCK	STANDING SHOCK		MOVING SHOCK	STANDING SHOCK		MOVING SHOCK	STANDING SHOCK
P	4.4319E-03	2.0889E-03	P	4.4319E-03	2.0889E-03	P	4.4319E-03	2.0889E-03
T	3.3765E-01	2.2453E-01	T	4.1479E-01	4.9430E-01	T	4.1479E-01	4.9430E-01
OH	8.2774E-03	2.0315E-01	OH	8.2774E-03	2.0315E-01	OH	8.2774E-03	2.0315E-01
M	4.4881E-01	1.4864E-02	M	1.0974E-02	1.0974E-02	M	1.0974E-02	1.0974E-02
A	7.3107E-03	9.1045E-03	A	7.9017E-03	1.0974E-02	A	7.9017E-03	1.0974E-02
S	1.7055E-03	1.7253E-03	S	1.7745E-03	1.0974E-02	S	1.7745E-03	1.0974E-02
Z	1.6669E-03	1.0147E-03	Z	1.7405E-03	1.0974E-02	Z	1.7405E-03	1.0974E-02
GMF	9.4070E-01	8.6177E-01	GMF	8.4309E-01	1.0974E-02	GMF	8.4309E-01	1.0974E-02
U	1.6575E-01	4.5544E-03	U	1.8043E-01	4.0287E-03	U	1.8043E-01	4.0287E-03

PI = 2.00E+02 N/50-M, USI = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.48E+02	4.25E+02	6.61E+03
T	4.24E+01	4.20E+01	6.98E+01
BMN	8.41E+00	3.36E+01	4.30E+01
M	1.18E+02	2.68E+02	2.55E+02
A	1.14E+00	1.04E+01	1.13E+01
S	1.79E+00	1.86E+00	1.92E+00
Z	1.76E+00	2.27E+00	2.20E+00
GAME	8.45E+01	8.04E+01	8.24E+01
U	1.97E+01	4.93E+00	4.79E+00

SPECIES	MOLE FRACTIONS
E-	1.00E-01
HE	1.70E-01
MF+	1.64E-01
MF+	2.45E-12
M	4.40E-01
M+	1.88E-01
M2	3.72E-04

PI = 2.00E+02 N/50-M, USI = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.00E+02	4.65E+03	7.21E+03
T	4.48E+01	4.42E+01	7.24E+01
BMN	8.41E+00	3.36E+01	4.30E+01
M	1.27E+02	2.71E+02	2.75E+02
A	9.30E+00	1.07E+01	1.19E+01
S	1.81E+00	1.89E+00	1.99E+00
Z	1.79E+00	2.27E+00	2.26E+00
GAME	8.45E+01	8.04E+01	8.24E+01
U	1.97E+01	4.93E+00	4.92E+00

SPECIES	MOLE FRACTIONS
E-	1.00E-01
HE	1.70E-01
MF+	1.64E-01
MF+	2.45E-12
M	4.40E-01
M+	1.88E-01
M2	3.72E-04

PI = 2.00E+02 N/50-M, USI = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.63E+02	2.14E+03	4.72E+03
T	4.68E+01	4.40E+01	4.78E+01
BMN	8.41E+00	3.36E+01	4.30E+01
M	1.25E+02	2.68E+02	2.55E+02
A	1.14E+00	1.04E+01	1.13E+01
S	1.72E+00	1.86E+00	1.92E+00
Z	1.76E+00	2.27E+00	2.20E+00
GAME	8.45E+01	8.04E+01	8.24E+01
U	1.97E+01	4.93E+00	4.79E+00

SPECIES	MOLE FRACTIONS
E-	1.00E-01
HE	1.70E-01
MF+	1.64E-01
MF+	2.45E-12
M	4.40E-01
M+	1.88E-01
M2	3.72E-04

PI = 2.00E+02 N/50-M, USI = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.63E+02	2.14E+03	4.72E+03
T	4.68E+01	4.40E+01	4.78E+01
BMN	8.41E+00	3.36E+01	4.30E+01
M	1.25E+02	2.68E+02	2.55E+02
A	1.14E+00	1.04E+01	1.13E+01
S	1.72E+00	1.86E+00	1.92E+00
Z	1.76E+00	2.27E+00	2.20E+00
GAME	8.45E+01	8.04E+01	8.24E+01
U	1.97E+01	4.93E+00	4.79E+00

SPECIES	MOLE FRACTIONS
E-	1.00E-01
HE	1.70E-01
MF+	1.64E-01
MF+	2.45E-12
M	4.40E-01
M+	1.88E-01
M2	3.72E-04

Table I. - Continued

$$\rho_1 = 200 \text{ N/m}^2$$

$\rho_1 = 2.000000 \text{ N/SQ-M, US1 = 7.000000 M/SEC}$				$\rho_1 = 2.000000 \text{ N/SQ-M, US1 = 3.200000 M/SEC}$				
SPECIES	MOLE FRACTIONS		SPECIES	MOLE FRACTIONS		SPECIES	MOLE FRACTIONS	
	MOVING SHOCK	STANDING SHOCK		MOVING SHOCK	STANDING SHOCK		MOVING SHOCK	STANDING SHOCK
O	7.000000	7.000000	O	9.000000	7.000000	O	9.000000	7.000000
T	4.710000	4.710000	T	4.710000	4.710000	T	4.710000	4.710000
OH	0.747000	0.747000	OH	0.747000	0.747000	OH	0.747000	0.747000
M	1.000000	1.000000	M	1.000000	1.000000	M	1.000000	1.000000
S	0.000000	0.000000	S	0.000000	0.000000	S	0.000000	0.000000
Z	0.000000	0.000000	Z	0.000000	0.000000	Z	0.000000	0.000000
GAME	0.000000	0.000000	GAME	0.000000	0.000000	GAME	0.000000	0.000000
U	0.000000	0.000000	U	0.000000	0.000000	U	0.000000	0.000000
F	0.000000	0.000000	F	0.000000	0.000000	F	0.000000	0.000000
ME	0.000000	0.000000	ME	0.000000	0.000000	ME	0.000000	0.000000
MF	0.000000	0.000000	MF	0.000000	0.000000	MF	0.000000	0.000000
M	0.000000	0.000000	M	0.000000	0.000000	M	0.000000	0.000000
M6	0.000000	0.000000	M6	0.000000	0.000000	M6	0.000000	0.000000
M2	0.000000	0.000000	M2	0.000000	0.000000	M2	0.000000	0.000000

P1 = 2.00E+02 N/50-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.120E+02	8.485E+02	1.214E+04
T	5.413E+01	8.145E+01	9.215E+01
RM	9.707E+00	4.273E+00	4.725E+00
M	7.023E+00	7.572E+02	6.409E+02
A	9.918E+00	1.734E+01	1.482E+01
S	1.989E+00	7.885E+00	2.169E+00
Z	2.071E+00	2.818E+00	2.727E+00
GAME	8.485E+01	8.478E+01	8.739E+01
U	2.620E+01	6.026E+00	6.478E+00

SPECIES	MOLE FRACTIONS
E-	2.070E-01
HE	1.881E-01
HE+	7.887E-02
HE++	1.094E-12
H	4.244E-01
H+	2.070E-01
H2	1.191E-02

P1 = 2.00E+02 N/50-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.125E+02	5.700E+03	8.746E+03
T	4.879E+01	6.916E+01	7.780E+01
RM	8.917E+00	3.720E+01	4.690E+01
M	1.470E+02	2.870E+02	3.184E+02
A	8.769E+00	1.159E+01	1.272E+01
S	1.865E+00	1.047E+00	2.018E+00
Z	1.867E+00	2.212E+00	2.398E+00
GAME	8.438E+01	8.447E+01	8.486E+01
U	2.210E+01	5.214E+00	5.207E+00

SPECIES	MOLE FRACTIONS
E-	1.145E-01
HE	1.872E-01
HE+	1.175E-04
HE++	9.938E-12
H	5.794E-01
H+	1.144E-01
H2	2.667E-02

P1 = 2.00E+02 N/50-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.260E+02	1.004E+02	1.188E+04
T	5.893E+01	8.404E+01	8.813E+01
RM	9.083E+00	4.195E+00	4.308E+00
M	1.245E+00	1.004E+02	4.964E+01
A	1.002E+01	1.007E+01	1.879E+01
S	2.028E+00	2.162E+00	2.204E+00
Z	2.143E+00	2.444E+00	2.877E+00
GAME	8.478E+01	8.490E+01	8.848E+01
U	2.791E+01	4.194E+00	4.297E+00

SPECIES	MOLE FRACTIONS
E-	2.349E-01
HE	1.604E-01
HE+	1.687E-02
HE++	1.071E-12
H	2.004E-01
H+	2.004E-01
H2	9.297E-02

P1 = 2.00E+02 N/50-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.171E+02	6.245E+03	8.522E+03
T	5.023E+01	7.157E+01	8.070E+01
RM	9.083E+00	3.839E+01	4.813E+01
M	1.874E+02	2.780E+02	3.412E+02
A	8.992E+00	1.187E+01	1.213E+01
S	1.887E+00	1.974E+00	2.048E+00
Z	1.809E+00	2.273E+00	2.444E+00
GAME	8.429E+01	8.497E+01	8.487E+01
U	2.301E+01	5.450E+00	5.394E+00

SPECIES	MOLE FRACTIONS
E-	1.241E-01
HE	1.874E-01
HE+	1.879E-02
HE++	7.200E-12
H	2.042E-01
H+	2.042E-01
H2	1.000E-02

Table I. - Continued
 $P_1 = 200 \text{ N/m}^2$

P1 = 2.00E+02 N/50-M, US1 = 3.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4162E+03	1.1467E+04	1.7349E+04
T	6.1761E+01	9.1950E+01	1.0432E+02
RHO	1.0166E+01	4.5179E+01	5.4849E+01
W	2.5257E+02	4.8660E+02	4.5337E+02
A	1.0888E+01	1.4890E+01	1.4974E+01
S	2.0768E+00	2.1993E+00	2.2925E+00
Z	2.2557E+00	2.7602E+00	2.9860E+00
GAME	8.5048E-01	8.7560E-01	9.0774E-01
U	2.9529E+01	6.4489E+00	6.7424E+00
SPECIES MOLE FRACTIONS			
E-	2.6842E-01	4.0223E-01	4.4741E-01
HE	1.5249E-01	8.0227E-02	4.0058E-02
ME+	2.5707E-03	4.6944E-02	7.7157E-02
ME++	8.3984E-14	2.4397E-08	7.6162E-07
H	3.1056E-01	1.1420E-01	4.5116E-02
M+	2.6594E-01	3.8567E-01	3.7025E-01
M2	4.6863E-06	1.9633E-06	4.6740E-07

P1 = 2.00E+02 N/50-M, US1 = 4.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9064E+03	1.5934E+04	2.4110E+04
T	7.0766E+01	1.1252E+02	1.4735E+02
RHO	1.0577E+01	4.8758E+01	4.9547E+01
W	3.3832E+02	4.0280E+02	7.6942E+02
A	1.2475E+01	1.8091E+01	2.3730E+01
S	2.2241E+00	2.3645E+00	2.6774E+00
Z	2.5473E+00	3.0647E+00	3.2433E+00
GAME	8.8741E-01	9.3990E-01	1.0647E+00
U	3.4334E+01	7.9402E+00	9.3274E+00
SPECIES MOLE FRACTIONS			
E-	2.6724E-01	4.4482E-01	4.9421E-01
HE	1.5249E-01	2.4204E-02	7.4402E-04
ME+	1.1908E-02	8.8889E-02	1.0350E-01
ME++	2.5674E-14	2.1693E-04	4.6787E-04
H	1.4959E-01	4.2148E-02	8.9798E-03
M+	3.4034E-01	3.7793E-01	3.8942E-01
M2	1.4744E-04	2.2402E-07	8.217E-06

P1 = 2.00E+02 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5719E+03	1.2943E+04	1.9480E+04
T	6.4641E+01	9.7738E+01	1.3652E+02
PHO	1.0338E+01	4.4017E+01	6.4377E+01
M	2.7903E+02	4.9786E+02	6.1715E+02
A	1.1394E+01	1.5770E+01	1.8660E+01
S	2.1255E+00	7.2557E+00	2.3545E+00
Z	2.3520E+00	2.8777E+00	3.1060E+00
GAME	8.380E-01	8.8421E-01	9.4181E-01
U	3.1139E+01	7.0002E+00	7.0012E+00

SPECIES	MOLE FRACTIONS	
E-	2.9846E-01	4.6877E-01
HE	1.4441E-01	2.1444E-02
HF+	4.3087E-03	9.1039E-02
HF++	8.9631E-13	5.3773E-06
H	2.9846E-01	4.6877E-01
H+	2.9408E-01	3.7732E-01
H2	3.7583E-04	2.4268E-07

P1 = 2.00E+02 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7393E+03	1.4443E+04	2.2247E+04
T	4.7842E+01	1.0436E+02	1.3210E+02
PHO	1.0476E+01	4.6276E+01	6.2661E+01
M	3.0849E+02	5.4934E+02	6.9857E+02
A	1.1912E+01	1.4801E+01	2.0820E+01
S	2.1747E+00	2.3117E+00	2.4170E+00
Z	2.4497E+00	2.9928E+00	3.0422E+00
GAME	8.630E-01	9.0446E-01	1.0231E+00
U	3.2741E+01	7.4161E+00	8.1204E+00

SPECIES	MOLE FRACTIONS	
E-	2.2546E-01	4.4831E-01
HE	1.3878E-01	4.0446E-02
HF+	7.3327E-03	7.6300E-02
HF++	3.8903E-13	5.9418E-07
H	2.1116E+01	4.2102E+01
H+	3.7190E-01	3.8797E-01
H2	3.3973E-04	2.3403E-07

P1 = 2.00E+02 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0052E+02	1.7342E+04	2.8031E+04
T	7.4004E+01	1.7244E+02	1.7897E+02
PHO	1.0668E+01	4.2187E+01	4.7208E+01
M	3.5994E+02	6.5764E+02	8.5770E+02
A	1.2973E+01	1.9777E+01	2.4174E+01
S	2.7738E+00	2.4107E+00	2.7294E+00
Z	2.6436E+00	3.4809E+00	3.2989E+00
GAME	8.7741E-01	9.0410E-01	9.9062E-01
U	2.5492E+01	8.6406E+00	1.0383E+01

SPECIES	MOLE FRACTIONS	
E-	3.7687E-01	4.8127E-01
HE	1.1375E-01	1.5721E-02
HF+	1.8445E-02	9.7795E-02
HF++	1.2993E-10	2.0774E-05
H	1.4441E-01	2.6248E-02
H+	3.7732E-01	3.8744E-01
H2	8.8421E-07	7.2608E-08

P1 = 2.00E+02 N/SQ-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2719E+02	1.8719E+04	2.8495E+04
T	7.7977E+01	1.3749E+02	1.9630E+02
PHO	1.0725E+01	4.1974E+01	4.7645E+01
M	4.0279E+02	7.1423E+02	9.2233E+02
A	1.3477E+01	2.1475E+01	2.6478E+01
S	2.3215E+00	2.4475E+00	2.5445E+00
Z	2.7777E+00	3.2275E+00	3.2627E+00
GAME	8.6734E-01	1.0241E+00	9.3298E-01
U	2.7419E+01	9.4849E+00	1.1047E+01

SPECIES	MOLE FRACTIONS	
E-	3.0730E-01	4.0075E-01
HE	1.0002E-01	5.4787E-03
HF+	2.7824E-03	1.0779E-01
HF++	1.4901E-10	1.4793E-05
H	1.3738E-01	1.3738E-02
H+	3.8747E-01	2.8747E-01
H2	8.1011E-07	1.3407E-08

$p_1 = 200 \text{ N/m}^2$

P1 = 2.00E+02 N/50-M. US1 = 5.60E+04 N/SEC			
	MOVING SMOKE	STANDING SMOKE	REFLECTED SMOKE
P	3.4914E+03	2.4210E+04	4.2066E+04
T	9.3946E+01	1.9921E+02	2.5308E+02
RHU	1.0700E+01	3.6029E+01	4.6640E+01
M	5.4746E+02	9.6153E+02	1.2748E+03
H	1.0064E+01	2.4806E+01	2.9491E+01
A	2.5189E+00	2.6310E+00	2.7397E+00
S	3.3703E+00	3.3703E+00	3.5537E+00
Z	8.9440E-01	9.1649E-01	9.6437E-01
GAME	4.3755E+01	1.2954E+01	1.3065E+01
U			

P1 = 2.00E+02 N/50-M. US1 = 5.60E+04 N/SEC			
	MOVING SMOKE	STANDING SMOKE	REFLECTED SMOKE
P	3.4914E+03	2.4210E+04	4.2066E+04
T	9.3946E+01	1.9921E+02	2.5308E+02
RHU	1.0700E+01	3.6029E+01	4.6640E+01
M	5.4746E+02	9.6153E+02	1.2748E+03
H	1.0064E+01	2.4806E+01	2.9491E+01
A	2.5189E+00	2.6310E+00	2.7397E+00
S	3.3703E+00	3.3703E+00	3.5537E+00
Z	8.9440E-01	9.1649E-01	9.6437E-01
GAME	4.3755E+01	1.2954E+01	1.3065E+01
U			

P1 = 2.00E+02 N/50-M. US1 = 5.60E+04 N/SEC			
	MOVING SMOKE	STANDING SMOKE	REFLECTED SMOKE
P	3.4914E+03	2.4210E+04	4.2066E+04
T	9.3946E+01	1.9921E+02	2.5308E+02
RHU	1.0700E+01	3.6029E+01	4.6640E+01
M	5.4746E+02	9.6153E+02	1.2748E+03
H	1.0064E+01	2.4806E+01	2.9491E+01
A	2.5189E+00	2.6310E+00	2.7397E+00
S	3.3703E+00	3.3703E+00	3.5537E+00
Z	8.9440E-01	9.1649E-01	9.6437E-01
GAME	4.3755E+01	1.2954E+01	1.3065E+01
U			

P1 = 2.00E+02 N/50-M. US1 = 5.60E+04 N/SEC			
	MOVING SMOKE	STANDING SMOKE	REFLECTED SMOKE
P	3.4914E+03	2.4210E+04	4.2066E+04
T	9.3946E+01	1.9921E+02	2.5308E+02
RHU	1.0700E+01	3.6029E+01	4.6640E+01
M	5.4746E+02	9.6153E+02	1.2748E+03
H	1.0064E+01	2.4806E+01	2.9491E+01
A	2.5189E+00	2.6310E+00	2.7397E+00
S	3.3703E+00	3.3703E+00	3.5537E+00
Z	8.9440E-01	9.1649E-01	9.6437E-01
GAME	4.3755E+01	1.2954E+01	1.3065E+01
U			

P1 = 2.00E+02 N/50-M. US1 = 5.60E+04 N/SEC			
	MOVING SMOKE	STANDING SMOKE	REFLECTED SMOKE
P	3.4914E+03	2.4210E+04	4.2066E+04
T	9.3946E+01	1.9921E+02	2.5308E+02
RHU	1.0700E+01	3.6029E+01	4.6640E+01
M	5.4746E+02	9.6153E+02	1.2748E+03
H	1.0064E+01	2.4806E+01	2.9491E+01
A	2.5189E+00	2.6310E+00	2.7397E+00
S	3.3703E+00	3.3703E+00	3.5537E+00
Z	8.9440E-01	9.1649E-01	9.6437E-01
GAME	4.3755E+01	1.2954E+01	1.3065E+01
U			

P1 = 2.00E+02 N/50-M. US1 = 5.60E+04 N/SEC			
	MOVING SMOKE	STANDING SMOKE	REFLECTED SMOKE
P	3.4914E+03	2.4210E+04	4.2066E+04
T	9.3946E+01	1.9921E+02	2.5308E+02
RHU	1.0700E+01	3.6029E+01	4.6640E+01
M	5.4746E+02	9.6153E+02	1.2748E+03
H	1.0064E+01	2.4806E+01	2.9491E+01
A	2.5189E+00	2.6310E+00	2.7397E+00
S	3.3703E+00	3.3703E+00	3.5537E+00
Z	8.9440E-01	9.1649E-01	9.64

P1 = 2.00E+02 M/SEC US1 = 5.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.30E+03	2.54E+04	4.42E+04
T	4.95E+01	2.09E+02	2.73E+02
KHU	1.05E+01	3.55E+01	4.40E+01
M	5.07E+02	1.02E+03	1.36E+03
A	1.14E+01	2.55E+01	3.15E+01
S	2.20E+00	2.66E+00	2.77E+00
Z	3.10E+00	3.41E+00	3.59E+00
GAME	9.31E+01	9.08E+01	1.01E+02
U	4.56E+01	1.33E+01	1.37E+01

SPECIES	MOLE FRACTIONS
E-	5.16E-01
HE	5.88E-04
ME+	6.56E-02
ME+	3.62E-02
M	1.81E-03
M+	3.78E-01
M2	2.17E-10

P1 = 2.00E+02 M/SEC US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.52E+03	2.63E+04	4.60E+04
T	1.01E+01	2.20E+02	2.99E+02
KHU	1.01E+01	3.45E+01	4.23E+01
M	5.20E+02	1.09E+03	1.46E+03
A	1.05E+01	2.64E+01	3.41E+01
S	2.20E+00	2.70E+00	2.81E+00
Z	3.10E+00	3.46E+00	3.62E+00
GAME	9.31E+01	9.13E+01	1.07E+02
U	4.56E+01	1.36E+01	1.46E+01

SPECIES	MOLE FRACTIONS
E-	5.23E-01
HE	4.04E-04
ME+	5.12E-02
ME+	4.93E-02
M	1.67E-03
M+	3.73E-01
M2	1.38E-10

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

P1 = 2.00E+02 M/SEC US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.44E+03	2.32E+04	3.64E+04
T	1.01E+01	1.72E+02	2.36E+02
KHU	1.01E+01	3.74E+01	4.78E+01
M	5.20E+02	1.09E+03	1.46E+03
A	1.05E+01	2.64E+01	3.41E+01
S	2.20E+00	2.70E+00	2.81E+00
Z	3.10E+00	3.46E+00	3.62E+00
GAME	9.31E+01	9.13E+01	1.07E+02
U	4.56E+01	1.36E+01	1.46E+01

SPECIES	MOLE FRACTIONS
E-	4.64E-01
HE	4.79E-04
ME+	6.56E-02
ME+	3.62E-02
M	1.81E-03
M+	3.78E-01
M2	2.17E-10

P1 = 2.00E+02 M/SEC US1 = 8.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.44E+03	2.32E+04	3.64E+04
T	1.01E+01	1.72E+02	2.36E+02
KHU	1.01E+01	3.74E+01	4.78E+01
M	5.20E+02	1.09E+03	1.46E+03
A	1.05E+01	2.64E+01	3.41E+01
S	2.20E+00	2.70E+00	2.81E+00
Z	3.10E+00	3.46E+00	3.62E+00
GAME	9.31E+01	9.13E+01	1.07E+02
U	4.56E+01	1.36E+01	1.46E+01

SPECIES	MOLE FRACTIONS
E-	4.64E-01
HE	4.79E-04
ME+	6.56E-02
ME+	3.62E-02
M	1.81E-03
M+	3.78E-01
M2	2.17E-10

Table I. - Continued

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/CM ² US1 = 6.20E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7490E+03	2.6757E+04	4.7010E+04
T	1.1879E+02	2.3084E+02	3.3177E+02
RMU	9.2730E+00	3.3027E+01	3.8943E+01
M	6.7005E+02	1.1675E+03	1.5737E+03
A	2.0242E+01	2.7414E+01	3.0019E+01
S	2.6349E+00	2.7474E+00	2.8624E+00
Z	3.2622E+00	3.5097E+00	3.6308E+00
WAME	1.0572E+00	9.2763E-01	1.1107E+00
U	4.7933E+01	1.4020E+01	1.5838E+01
SPECIES MOLE FRACTIONS			
E-	7.9427E-01	5.2987E-01	5.4030E-01
HE	4.0800E-03	2.6473E-04	1.1931E-05
HE+	1.0314E-01	3.8259E-02	3.1900E-03
M	6.4910E-05	6.1202E-02	9.3030E-02
M+	7.4291E-03	1.2007E-03	4.2223E-04
M2	3.9103E-01	3.6921E-01	3.5601E-01
	1.4077E-09	8.6673E-11	1.2010E-11

P1 = 2.00E+02 N/CM ² US1 = 6.80E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4317E+03	2.7304E+04	4.9729E+04
T	1.5074E+02	2.7288E+02	4.4330E+02
RMU	8.4223E+00	2.7779E+01	3.0730E+01
M	6.0322E+02	1.3771E+03	1.9117E+03
A	2.4230E+01	3.1970E+01	4.2890E+01
S	2.7022E+00	2.8599E+00	2.9744E+00
Z	3.3147E+00	3.6125E+00	3.6674E+00
WAME	9.6872E-01	1.0376E+00	1.1370E+00
U	5.1001E+01	1.5647E+01	1.9470E+01
SPECIES MOLE FRACTIONS			
E-	5.0222E-01	5.4326E-01	5.4704E-01
HE	5.2100E-04	4.0517E-05	5.9055E-05
HE+	9.0607E-02	9.7203E-03	5.5738E-04
M	6.3015E-03	8.7124E-02	9.5000E-02
M+	1.4242E-03	5.7059E-04	1.4002E-04
M2	3.9077E-01	3.5929E-01	3.5027E-01
	3.0441E-11	1.6001E-11	1.1023E-12

PI = 2.00E+02 N/30-M, US1 = 0.40E+04 N/SEC

	MUVA SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.960E+03	2.677E+04	4.737E+04
T	1.344E+02	2.423E+02	3.663E+02
MU	9.133E+00	3.110E+01	3.540E+01
M	7.125E+02	1.235E+03	1.679E+03
A	4.171E+01	2.864E+01	3.879E+01
S	4.692E+00	2.787E+00	2.903E+00
Z	3.484E+00	3.551E+00	3.643E+00
GAME	1.063E+00	9.532E-01	1.127E+00
U	4.912E+01	1.439E+01	1.697E+01

SPECIES ----- MILE FRACTIONS

E-	4.973E+01	5.354E-01	5.470E-01
HE	1.705E+01	1.368E-04	3.699E-06
ME+	1.055E-01	2.637E-02	1.601E-03
ME+	3.497E-04	7.200E-02	9.407E-02
M	3.651E-03	9.547E-04	2.807E-04
H+	3.944E-01	3.650E-01	3.552E-01
M2	3.373E-01	5.124E-11	4.973E-14

PI = 2.00E+02 N/30-M, US1 = 6.60E+04 N/SEC

	MUVA SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.192E+03	2.689E+04	4.804E+04
T	1.462E+02	2.560E+02	4.020E+02
MU	6.835E+00	2.928E+01	3.274E+01
M	7.571E+02	1.304E+03	1.799E+03
A	4.242E+01	3.017E+01	4.081E+01
S	2.764E+00	2.825E+00	4.940E+00
Z	3.478E+00	3.586E+00	3.640E+00
GAME	1.042E+00	9.913E-01	1.133E+00
U	3.034E+01	1.491E+01	1.817E+01

SPECIES ----- MILE FRACTIONS

E-	4.973E+01	5.400E-01	5.470E-01
HE	6.210E-04	8.370E-05	1.479E-06
ME+	1.034E-01	1.667E-02	9.049E-04
ME+	4.103E+00	6.382E-02	9.509E-02
M	3.944E-03	7.444E-04	2.032E-04
H+	3.944E-01	3.616E-01	3.552E-01
M2	3.373E-01	2.906E-11	2.603E-14

PI = 2.00E+02 N/30-M, US1 = 7.00E+04 N/SEC

	MUVA SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.088E+03	2.828E+04	5.247E+04
T	1.666E+02	2.937E+02	4.871E+02
MU	6.322E+00	2.454E+01	2.922E+01
M	4.506E+02	1.452E+03	2.041E+03
A	2.274E+01	3.394E+01	4.497E+01
S	2.793E+00	2.891E+00	3.004E+00
Z	3.341E+00	3.629E+00	3.642E+00
GAME	9.185E-01	1.081E+00	1.130E+00
U	5.309E+01	1.661E+01	2.002E+01

SPECIES ----- MILE FRACTIONS

E-	5.062E-01	5.453E-01	5.477E-01
HE	3.699E-04	1.772E-05	2.694E-07
ME+	9.052E-02	5.266E-03	3.794E-04
ME+	1.389E-02	9.115E-02	9.554E-02
M	1.069E-03	4.276E-04	1.101E-04
H+	3.879E-01	3.577E-01	3.562E-01
M2	1.959E-11	8.447E-12	6.009E-13

Table I. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SC-M, US1 = 4.00E+03 M/SFC				P1 = 5.00E+02 N/SC-M, US1 = 7.00E+03 M/SFC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.3567E+01	2.8746E+01	7.2641E+01	E-	4.4363E+01	1.6821E+02	2.9241E+02
HF	3.5541E+02	4.4740E+00	6.5110E+00	HF	8.1744E+00	1.0389E+01	1.1625E+01
HE+	3.9235E+00	6.4258E+00	1.1122E+01	HE+	5.3607E+00	1.5443E+01	2.3017E+01
H	3.6325E+00	4.6130E+00	6.9011E+00	H	9.3224E+00	1.4346E+01	1.8528E+01
A	1.8736E+00	2.0904E+00	2.4759E+00	A	2.6622E+00	2.9780E+00	3.2072E+00
S	1.0649E+00	1.0665E+00	1.0838E+00	S	1.1541E+00	1.1680E+00	1.1522E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0087E+00	1.0483E+00	1.0929E+00
GAME	9.8771E-01	9.7656E-01	9.4389E-01	GAME	6.5545E-01	8.1422E-01	8.0568E-01
U	2.5703E+00	1.5703E+00	1.3957E+00	U	4.9122E+00	1.7104E+00	1.5006E+00
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
E-	5.0588E-01	1.6503E-02	6.4197E-15	E-	1.4385E-14	2.3502E-11	3.5891E-10
HF	3.5500E-01	1.5000E-01	3.4988E-01	HF	3.4699E-01	3.3307E-01	3.2028E-01
HE+	3.0699E-03	3.7958E-03	3.4586E-03	HE+	1.6143E-03	2.5876E-02	1.8273E-04
H	0.	0.	0.	H	0.	0.	2.1008E-00
A	1.5827E-03	2.0115E-06	7.9137E-04	A	1.7213E-02	9.2174E-02	1.6582E-01
S	8.1343E-20	6.1343E-20	7.2328E-19	S	1.6385E-14	2.3502E-11	3.5891E-10
Z	6.5000E-01	6.5000E-01	6.4535E-01	Z	6.3580E-01	5.7396E-01	5.0995E-01

P1 = 5.00E+02 N/SC-M, US1 = 5.00E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2025E+01	5.6349E+01	1.2618E+02
T	4.5815E+00	6.6628E+00	8.7737E+00
RND	4.4158E+00	8.4520E+00	1.4224E+01
M	5.1727E+00	7.0875E+00	1.0175E+01
A	2.1955E+00	2.5001E+00	2.7511E+00
S	1.6558E+00	1.0997E+00	1.1194E+00
Z	1.0000E+00	1.0000E+00	1.0111E+00
GAME	5.6557E-01	9.3755E-01	8.5570E-01
U	3.3341E+00	1.7409E+00	1.5004E+00

SPECIES ----- MOLE FRACTIONS -----

E-	4.5380E-29	2.1674E-18	1.0295E-13
HE	3.5000E-01	3.4579E-01	3.4617E-01
HE+	3.8094E-51	3.2058E-42	2.4625E-32
HE++	0.	0.	0.
H	2.0989E-05	1.2285E-03	2.1899E-02
H+	8.1343E-20	2.2487E-18	1.0295E-13
H2	6.4998E-01	6.4899E-01	6.3193E-01

P1 = 5.00E+02 N/SC-M, US1 = 6.00E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2026E+01	9.9506E+01	1.9412E+02
T	6.6321E+00	8.7946E+00	1.0332E+01
RND	4.8251E+00	1.1172E+01	1.8015E+01
M	7.0613E+00	1.0301E+01	1.3954E+01
A	2.4855E+00	2.7503E+00	2.9484E+00
S	1.1255E+00	1.1327E+00	1.1556E+00
Z	1.0000E+00	1.0128E+00	1.0430E+00
GAME	9.3374E-01	8.4924E-01	8.1776E-01
U	4.1000E+00	1.7690E+00	1.4592E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.6113E-18	1.3130E-13	1.7394E-11
HE	3.4579E-01	3.4558E-01	3.3558E-01
HE+	2.0841E-42	2.3671E-32	1.3123E-22
HE++	0.	0.	0.
H	1.3327E-03	2.5355E-02	8.2389E-07
H+	2.6524E-18	1.3130E-13	1.7394E-11
H2	6.4874E-01	6.2918E-01	5.8203E-01

P1 = 5.00E+02 N/SC-M, US1 = 6.00E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.9259E+01	2.7277E+02	4.4032E+02
T	6.3289E+00	1.1718E+01	1.2875E+01
RND	6.1717E+00	2.1123E+01	2.9531E+01
M	1.1563E+01	1.9159E+01	2.4050E+01
A	2.8644E+00	3.2312E+00	3.4812E+00
S	1.1236E+00	1.2009E+00	1.2385E+00
Z	1.3300E+00	1.1020E+00	1.1587E+00
GAME	8.1855E-01	8.0835E-01	8.1238E-01
U	5.7779E+00	1.6873E+00	1.5274E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.5148E-12	5.1842E-10	4.1024E-05
HE	3.3982E-01	3.1761E-01	3.0807E-01
HE+	1.0000E-30	2.4866E-24	2.5264E-22
HE++	0.	5.3424E-91	4.1665E-80
H	5.6174E-02	1.8508E-01	2.7388E-01
H+	1.5148E-12	5.1842E-10	4.1024E-05
H2	6.3201E-01	4.5731E-01	4.2405E-01

P1 = 5.00E+02 N/SC-M, US1 = 9.00E+03 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5565E+01	4.1654E+02	6.4251E+02
T	1.0227E+01	1.2951E+01	1.4153E+01
RND	7.0450E+00	2.7517E+01	3.6675E+01
M	1.4563E+01	2.4770E+01	3.0454E+01
A	2.9859E+00	3.3067E+00	3.7519E+00
S	1.2153E+00	1.2456E+00	1.2858E+00
Z	1.0000E+00	1.1650E+00	1.2381E+00
GAME	8.0445E-01	8.1218E-01	8.2074E-01
U	6.6571E+00	1.7049E+00	1.5943E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.5511E-11	4.5831E-09	2.6249E-08
HE	3.3558E-01	2.9939E-01	2.8269E-01
HE+	1.0094E-27	4.8475E-22	3.0525E-20
HE++	0.	9.3643E-92	3.6025E-75
H	1.1571E-01	2.8520E-01	3.4464E-01
H+	2.5511E-11	4.5831E-09	2.6249E-08
H2	5.5371E-01	4.1141E-01	3.3267E-01

Table I. - Continued
 $P_1 = 500 \text{ N/m}^2$

$P_1 = 5.00 \times 10^2 \text{ N/SC-M, USI} = 1.00 \times 10^4 \text{ M/SEC}$				$P_1 = 5.00 \times 10^2 \text{ N/SC-M, USI} = 1.30 \times 10^4 \text{ M/SEC}$			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	5.2583E+01	5.9998E+02	8.9530E+2	P	1.6277E+02	1.3561E+03	2.0331E+03
T	1.0954E+01	1.4170E+01	1.5519E+01	T	1.3035E+01	1.8764E+01	2.3613E+01
RHO	7.5214E+00	3.3957E+01	4.3607E+01	RHO	1.0130E+01	4.7513E+01	5.3252E+01
M	1.8312E+01	3.1012E+01	3.7707E+01	M	3.0449E+01	5.3493E+01	6.5927E+01
A	3.1146E+00	3.3081E+00	4.1466E+00	A	3.5471E+00	5.0426E+00	6.2481E+00
S	1.2453E+00	1.2954E+00	1.3311E+00	S	1.3641E+00	1.4426E+00	1.4989E+00
Z	1.1022E+00	1.2469E+00	1.3290E+00	Z	1.2612E+00	1.5190E+00	1.6149E+00
GAME	8.0050E-01	3.2073E-01	8.3448E-01	GAME	8.0855E-01	8.9205E-01	1.0223E+00
U	7.5310E+00	1.7579E+00	1.6718E+00	U	1.0058E+01	2.1522E+00	2.3703E+00
SPECIES		MOLF FRACTIONS		SPECIES		MOLF FRACTIONS	
E-	1.8396E-10	3.0795E-08	1.5713E-07	E-	1.0769E-08	3.5215E-06	7.0501E-05
ME	3.1754E-01	2.8069E-01	2.8333E-01	ME	2.7746E-01	2.3041E-01	2.1647E-01
ME+	6.5313E-25	3.2577E-20	1.7857E-18	ME+	7.4028E-22	2.5734E-15	5.4663E-12
ME++	C.	6.5916E-74	6.7608E-59	ME++	8.2636E-80	3.5948E-57	1.8176E-44
M	1.8547E-01	3.5605E-01	4.5512E-01	M	4.1453E-01	6.8335E-01	7.6223E-01
M+	1.8346E-10	3.0795E-08	1.5713E-07	M+	1.0769E-08	3.5215E-06	7.0501E-05
H2	4.5699E-01	3.2326E-01	2.4153E-01	H2	3.0804E-01	8.6230E-02	2.0561E-02

PI = 5.00E+02 N/SEC-M, USI = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1743E+02	8.2115E+02	1.2122E+03
T	1.1655E+01	1.7126E+01	1.7126E+01
RND	8.7400E+00	3.9890E+01	4.5536E+01
M	2.2007E+01	3.7897E+01	4.5853E+01
A	3.2812E+00	4.1453E+00	4.5757E+00
S	1.2850E+00	1.3435E+00	1.3889E+00
Z	1.1492E+00	1.3336E+00	1.4288E+00
GAME	8.0059E-01	8.3391E-01	8.5710E-01
U	8.3555E+00	1.8431E+00	1.7983E+00

SPECIES	MOLE FRACTIONS
E-	8.5645E-10
HE	3.0451E-01
HE+	2.6245E-01
ME+	1.5545E-18
ME++	4.1462E-50
H	2.5522E-01
M+	8.9645E-10
M2	4.3585E-01

PI = 5.00E+02 N/SEC-M, USI = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9407E+02	1.6411E+03	2.5751E+03
T	1.3129E+01	2.1629E+01	3.1903E+01
RND	1.0867E+01	4.7508E+01	4.9078E+01
M	3.5176E+01	6.2043E+01	7.9222E+01
A	3.8532E+00	5.8014E+00	7.5048E+00
S	1.4587E+00	1.4903E+00	1.5585E+00
Z	1.3253E+00	1.5971E+00	1.6472E+00
GAME	8.1606E-01	9.7430E-01	1.0719E+00
U	1.0934E+01	2.4563E+00	3.0322E+00

SPECIES	MOLE FRACTIONS
E-	3.2103E-08
HE	2.6410E-01
HE+	1.0270E-20
ME++	4.5589E-77
H	4.5087E-01
M+	3.2103E-08
M2	2.4573E-01

PI = 5.00E+02 N/SEC-M, USI = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4103E+02	1.0763E+03	1.5850E+03
T	1.2367E+01	1.5907E+01	1.9352E+01
RND	5.4623E+00	4.6636E+01	5.3400E+01
M	2.6051E+01	4.5407E+01	5.5069E+01
A	3.4578E+00	4.5353E+00	5.1750E+00
S	1.2339E+00	1.3930E+00	1.4434E+00
Z	1.2025E+00	1.4263E+00	1.5321E+00
GAME	8.0359E-01	8.3451E-01	9.0326E-01
U	5.2522E+00	1.5675E+00	1.9947E+00

SPECIES	MOLE FRACTIONS
E-	3.3547E-09
HE	2.5130E-01
HE+	5.6962E-23
ME++	1.2527E-65
H	3.3651E-01
M+	4.3647E-05
M2	3.7265E-01

PI = 5.00E+02 N/SEC-M, USI = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2349E+02	1.9001E+03	3.1480E+03
T	1.4483E+01	2.6421E+01	3.9852E+01
RND	1.1075E+01	4.3944E+01	4.7344E+01
M	4.0258E+01	7.0931E+01	9.2570E+01
A	4.2832E+00	6.9247E+00	8.0887E+00
S	1.4483E+00	1.5329E+00	1.5903E+00
Z	1.3533E+00	1.6365E+00	1.6649E+00
GAME	8.2225E-01	1.0772E+00	9.8522E-01
U	1.1760E+01	2.9631E+00	3.5845E+00

SPECIES	MOLE FRACTIONS
E-	5.2511E-08
HE	2.5120E-01
HE+	1.2354E-15
ME++	4.6459E-73
H	5.6459E-01
M+	9.2511E-08
M2	1.8425E-01

Table L - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SC-M, US1 = 1.62E+04 N/SEC					P1 = 5.00E+02 N/SC-M, US1 = 1.92E+04 N/SEC				
MOVING SHOCK					MOVING SHOCK				
STANDING SHOCK					STANDING SHOCK				
REFLECTED SHOCK					REFLECTED SHOCK				
SPECIES					SPECIES				
P	2.545E+02	2.13E+03	3.691E+02	3.691E+02	P	3.55E+02	2.59E+03	4.59E+03	4.59E+03
T	1.54E+01	3.23E+01	4.58E+01	4.58E+01	T	2.12E+01	4.58E+01	5.71E+01	5.71E+01
RHO	1.12E+01	3.58E+01	4.76E+01	4.76E+01	RHO	1.02E+01	3.26E+01	4.43E+01	4.43E+01
M	4.58E+01	9.23E+01	1.06E+02	1.06E+02	M	6.38E+01	1.10E+02	1.46E+02	1.46E+02
A	4.35E+00	7.54E+00	8.45E+00	8.45E+00	A	2.64E+00	8.51E+00	9.54E+00	9.54E+00
S	1.45E+00	1.55E+00	1.55E+00	1.55E+00	S	1.61E+00	1.61E+00	1.71E+00	1.71E+00
Z	1.45E+00	1.55E+00	1.55E+00	1.55E+00	Z	1.61E+00	1.61E+00	1.71E+00	1.71E+00
GAME	8.42E+01	1.26E+02	9.31E+01	9.31E+01	GAME	1.05E+00	9.11E+01	8.40E+01	8.40E+01
U	1.25E+01	1.55E+00	3.92E+00	3.92E+00	U	1.47E+01	4.62E+00	4.40E+00	4.40E+00
MOVING SHOCK					MOVING SHOCK				
STANDING SHOCK					STANDING SHOCK				
REFLECTED SHOCK					REFLECTED SHOCK				
SPECIES					SPECIES				
P	2.77E+07	2.09E+03	2.55E+02	2.55E+02	P	4.34E+02	4.37E+02	9.41E+02	9.41E+02
T	2.55E+01	2.12E+01	2.09E+01	2.09E+01	T	2.14E+01	2.05E+01	1.93E+01	1.93E+01
RHO	1.72E+01	2.10E+01	1.26E+01	1.26E+01	RHO	4.28E+01	1.96E+01	2.95E+01	2.95E+01
M	1.26E+01	1.81E+01	2.23E+01	2.23E+01	M	5.48E+01	8.22E+01	1.91E+01	1.91E+01
S	6.33E+01	7.41E+01	7.41E+01	7.41E+01	S	7.76E+01	7.27E+01	6.33E+01	6.33E+01
Z	6.33E+01	7.41E+01	7.41E+01	7.41E+01	Z	7.76E+01	7.27E+01	6.33E+01	6.33E+01
GAME	2.77E+07	2.09E+03	2.55E+02	2.55E+02	GAME	4.34E+02	4.37E+02	9.41E+02	9.41E+02
U	1.27E+01	2.55E+01	6.71E+01	6.71E+01	U	9.10E+01	4.23E+01	2.52E+01	2.52E+01

PI = 5.00E+02 N/SEC-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.800E+02	4.555E+03	4.697E+02
T	2.562E+01	4.957E+01	5.548E+01
RND	5.213E+00	1.311E+01	4.930E+01
M	7.053E+01	1.212E+02	1.586E+02
A	6.407E+00	8.700E+00	9.802E+00
S	1.652E+00	1.695E+00	1.745E+00
Z	1.647E+00	1.737E+00	1.643E+00
JAME	1.950E+00	1.931E+01	8.787E+01
U	1.536E+01	4.698E+00	4.664E+00

SPECIES	WLF FRACTIONS
E-	4.310E+04
ME	2.100E-02
ME+	4.013E-01
ME++	5.347E-05
M	2.900E-19
M+	6.507E-01
M++	5.075E-01
M2	2.571E-04

PI = 5.00E+02 N/SEC-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.000E+02	2.457E+03	4.403E+02
T	2.562E+01	5.243E+01	6.175E+01
RND	5.213E+00	2.365E+01	3.840E+01
M	7.053E+01	1.321E+02	1.721E+02
A	6.407E+00	7.702E+00	1.011E+01
S	1.652E+00	1.727E+00	1.700E+00
Z	1.647E+00	1.777E+00	1.991E+00
JAME	1.950E+00	4.323E+01	8.756E+01
U	1.536E+01	4.750E+00	4.526E+00

SPECIES	WLF FRACTIONS
E-	4.310E+04
ME	2.100E-02
ME+	4.013E-01
ME++	5.347E-05
M	2.900E-19
M+	6.507E-01
M++	5.075E-01
M2	2.571E-04

PI = 5.00E+02 N/SEC-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.814E+02	2.346E+03	4.176E+02
T	1.649E+01	3.803E+01	5.548E+01
RND	1.136E+01	3.719E+01	4.790E+01
M	5.194E+01	8.977E+01	1.190E+02
A	4.654E+00	7.534E+00	8.832E+00
S	1.536E+00	1.591E+00	1.653E+00
Z	1.536E+00	1.661E+00	1.720E+00
JAME	8.706E+01	9.961E+01	9.051E+01
U	1.336E+01	4.381E+00	4.140E+00

SPECIES	WLF FRACTIONS
E-	4.629E-07
ME	2.100E-02
ME+	3.804E-17
ME++	7.147E-04
M	6.507E-01
M+	9.623E-07
M2	7.523E-02

PI = 5.00E+02 N/SEC-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.212E+02	2.529E+03	4.515E+02
T	1.821E+01	4.279E+01	5.412E+01
RND	1.105E+01	3.516E+01	4.725E+01
M	5.783E+01	1.000E+02	1.341E+02
A	5.212E+00	3.236E+00	9.236E+00
S	1.570E+00	1.631E+00	1.584E+00
Z	1.571E+00	1.580E+00	1.764E+00
JAME	9.550E+01	9.525E+01	6.914E+01
U	1.410E+01	4.223E+00	4.300E+00

SPECIES	WLF FRACTIONS
E-	4.715E-06
ME	2.100E-02
ME+	1.741E-18
ME++	4.826E-04
M	7.477E-01
M+	4.791E-05
M2	3.313E-02

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued
 $P_1 = 500 \text{ N/m}^2$

$P_1 = 5.00E+02 \text{ N/SC-M, USL} = 2.50E+04 \text{ M/SFC}$			
MOVING SHOCK			
P	STANDING SHOCK	REFLECTED SP-CK	
T	4.620E+02	4.631E+03	5.816E+03
RMD	3.438E+01	5.511E+01	7.213E+01
M	8.083E+0C	2.784E+01	2.934E+01
A	8.484E+01	1.447E+02	2.373E+02
S	7.465E+0C	9.352E+00	1.122E+01
Z	1.707E+00	4.754E+00	1.892E+0C
GAME	1.622E+0C	1.811E+00	2.102E+0C
U	9.812E-01	8.760E-01	8.754E-01
	1.661E+01	4.821E+00	4.935E+0C
MOVING SHOCK			
P	STANDING SHOCK	REFLECTED SP-CK	
T	5.951E+02	3.610E+03	5.816E+03
RMD	4.338E+01	6.310E+01	7.213E+01
M	7.963E+00	2.934E+01	2.934E+01
A	1.052E+02	1.471E+02	2.373E+02
S	8.113E+00	1.132E+01	1.122E+01
Z	1.776E+0C	1.324E+00	1.892E+0C
GAME	1.722E+0C	1.945E+0C	2.102E+0C
U	8.812E-01	3.709E-01	8.754E-01
	1.864E+01	5.108E+00	4.935E+0C
SPECIES			
MILE FRACTIONS			
E-	4.221E-02	1.537E-01	2.154E-01
ME	2.031E-01	1.783E-01	1.615E-01
ME+	1.259E-05	1.260E-03	4.464E-03
ME++	5.513E-22	2.346E-14	3.489E-12
M	7.122E-01	5.140E-01	4.670E-01
M+	4.223E-02	1.525E-01	2.111E-01
M2	1.277E-04	9.240E-05	6.088E-05

P1 = 5.00E+02 N/SC-M, USL = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4477E+02	3.5835E+03	6.3659E+03
T	4.5617E+01	6.5752E+01	7.4957E+01
RHO	2.0684E+00	3.0279E+01	3.5258E+01
H	1.1859E+02	2.3250E+02	2.3549E+02
A	8.1374E+00	1.0760E+01	1.1511E+01
S	1.7550E+00	1.0605E+00	1.9246E+00
Z	1.7501E+00	2.0000E+00	2.1635E+00
GAME	6.5585E-01	5.7128E-01	8.7532E-01
U	1.9632E+01	5.2279E+00	5.0675E+00

SPECIES	MULTI FRACTIONS
E-	3.7319E-02
HE	1.5555E-01
ME+	2.8597E-05
HE+	1.0374E-23
H	6.8531E-01
M+	5.7239E-02
M2	1.0187E-04

P1 = 5.00E+02 N/SC-M, USL = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.9278E+02	4.3923E+03	6.9805E+03
T	4.7743E+01	6.8384E+01	7.7824E+01
RHO	6.1573E+00	3.1269E+01	4.0342E+01
H	1.2734E+02	2.1542E+02	2.7659E+02
A	8.5546E+00	1.1567E+01	1.2539E+01
S	1.8211E+00	1.1867E+00	1.5521E+00
Z	1.7804E+00	2.0415E+00	2.2234E+00
GAME	8.6533E-01	8.7157E-01	8.7541E-01
U	2.0432E+01	5.3537E+00	5.2044E+00

SPECIES	MULTI FRACTIONS
E-	7.3303E-02
HE	1.5653E-01
ME+	5.4414E-05
HE+	1.2507E-19
H	6.5677E-01
M+	7.0249E-02
M2	3.3427E-03

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

P1 = 5.00E+02 N/SC-M, USL = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0346E+02	4.9569E+03	4.9264E+03
T	3.7892E+01	5.7784E+01	6.6633E+01
RHO	7.9226E+00	2.7967E+01	3.7103E+01
H	9.2578E+01	1.5794E+02	2.0222E+02
A	7.6685E+00	9.6708E+00	1.0773E+01
S	1.7314E+00	1.7814E+00	1.8353E+00
Z	1.6775E+00	1.8545E+00	1.9505E+00
GAME	9.3022E-01	8.7274E-01	8.7413E-01
U	1.7321E+01	4.9050E+00	4.7031E+00

SPECIES	MULTI FRACTIONS
E-	1.1041E-01
HE	1.7381E-01
ME+	1.9562E-03
HE+	5.1921E-16
H	1.7222E-13
M+	4.8349E-01
M2	1.6931E-01
	9.2577E-05

P1 = 5.00E+02 N/SC-M, USL = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.4752E+02	3.2786E+03	5.3290E+03
T	4.0827E+01	6.0435E+01	6.9339E+01
RHO	7.9036E+00	2.8541E+01	3.7556E+01
H	1.0071E+02	1.7210E+02	2.1519E+02
A	7.8522E+00	1.0064E+01	1.1139E+01
S	1.7544E+00	1.8075E+00	1.8678E+00
Z	1.6582E+00	1.9305E+00	2.0456E+00
GAME	8.9538E-01	8.7126E-01	8.7436E-01
U	1.8008E+01	5.3013E+00	4.8104E+00

SPECIES	MULTI FRACTIONS
E-	2.6441E-02
HE	1.3192E-01
ME+	1.8343E-01
HE+	3.0206E-03
H	7.3613E-04
M+	3.7953E-15
M2	5.5216E-01
	4.4944E-01
	1.9043E-01
	7.5179E-05

$p_1 = 500 \text{ N/m}^2$

PI = 5.30E+02 N/SEC-M, USI = 3.20E+04 M/SEC			
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	5.9925E+02	6.8785E+03	1.0715E+14
Y	5.6631E+01	8.1580E+01	9.2663E+01
M	8.9145E+00	3.6073E+01	8.5559E+01
H	1.7688E+02	3.1222E+02	3.8999E+02
A	9.7366E+00	1.2912E+01	1.4361E+01
S	1.9323E+00	2.5190E+00	2.5972E+00
Z	1.9593E+00	2.5374E+00	2.5377E+00
GAME	8.5416E-01	8.7431E-01	8.7714E-01
U	2.6448E+01	6.0545E+00	5.9559E+00
SPECIES	-----	-----	-----
E-	1.5810E-01	2.9411E-01	3.6984E-01
ME	1.7801E-01	1.3532E-01	1.0482E-01
HE+	5.6212E-04	1.4415E-02	3.3102E-02
HE+	6.7615E-16	6.7931E-10	1.0439E-08
H	5.0536E-01	2.7646E-01	1.9554E-01
H+	1.5752E-01	2.7569E-01	3.1672E-01
M2	3.5865E-05	2.3241E-05	1.2526E-05

PI = 5.30E+02 N/SEC-M, USI = 2.80E+04 M/SEC			
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	7.5103E+02	4.8334E+03	7.6411E+03
Y	4.9683E+01	7.1015E+01	8.0725E+01
M	8.3275E+00	3.2275E+01	4.1420E+01
H	1.3656E+02	2.3664E+02	2.9758E+02
A	5.7544E+00	1.4436E+01	1.4710E+01
S	1.8433E+00	1.9130E+00	1.9817E+00
Z	1.8120E+00	2.1089E+00	2.2851E+00
GAME	8.5865E-01	8.7275E-01	9.7570E-01
U	2.1238E+01	5.4852E+00	5.3454E+00
SPECIES	-----	-----	-----
E-	8.5865E-02	2.1754E-01	2.7803E-01
ME	1.5257E-01	1.6182E-01	1.4089E-01
HE+	1.0051E-04	4.3127E-03	1.2305E-02
HE+	1.0899E-18	2.3485E-12	1.6765E-10
H	6.2725E-01	4.0280E-01	3.0306E-01
H+	8.5764E-02	2.1347E-02	2.6572E-02
M2	6.6545E-05	5.1583E-05	3.1553E-05

PL = 5.00E+02 N/5.5-M, ISL = 3.40E+04 N/5.5-C

P	MOVING SWITCH	STANDING SWITCH	W-FLUCTUATE SPEED
1	1.2075+00	0.6052+00	1.24195+04
2	0.9245+00	0.6927+01	9.40551+01
3	5.172+00	3.7721+01	4.77318+01
4	2.0152+02	1.5389+02	4.41145+02
5	1.3223+01	1.3652+01	1.3257+01
6	1.3776+00	2.3726+00	2.15495+00
7	2.0013+00	2.4540+00	2.46035+00
8	8.9534+01	7.4500+01	8.38229+01
9	2.6111+01	4.3529+00	4.28048+00

[illegible]

PL = 5.0°C F + C/11/54.24, LST = 3.66°C + 0.4 W/5°C

	MOVING, SHOCK	STANDING, SHOCK	REFLECTED SHOCK
P	1.2600E+01	9.2935E+01	1.4370E+02
T	6.3500E+01	7.4237E+01	1.2555E+02
M	5.4524E+01	9.4144E+01	4.4508E+01
H	4.2641E+02	1.3700E+02	6.9575E+02
A	1.0722E+01	1.4445E+01	1.6251E+01
S	2.0435E+01	2.1257E+01	2.2144E+01
Z	1.1475E+01	2.7659E+01	2.7919E+01
G	4.7397E+01	5.7605E+01	9.4352E+01
U	4.7397E+01	5.7605E+01	9.4352E+01

SPECIES	4-16 FRACTURES
C	2.6447E-01
HC	1.1224E-01
H ₂	2.0737E-02
H ₂ O	7.5235E-14
H	3.6621E-01
H ₂	2.2234E-11
N ₂	1.0536E-03
	3.5112E-01
	1.0114E-01
	3.4623E-02
	1.1322E-01
	1.8222E-01
	2.2456E-01
	3.4711E-01
	4.6235E-06
	4.0518E-01
	5.3363E-02
	6.2005E-07
	2.5858E-01
	1.1626E-01
	3.4711E-01
	4.6235E-06

P1 = 5. CCE+C2 N/SC-M, US1 = 2.90E+04 N/SC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.0744E+02	5.3055E+03	8.3478E+03
T	5.0124E+01	7.3649E+01	8.0365E+01
RMO	8.4842E+00	3.1275E+01	4.2499E+01
M	1.6689E+02	2.5495E+02	3.1943E+02
A	5.0284E+00	1.1801E+01	1.3115E+01
S	1.8653E+00	1.9353E+00	2.0154E+00
Z	1.8471E+00	2.1648E+00	2.3479E+00
GAME	8.5610E-01	8.7345E-01	8.7567E-01
U	2.2649E+01	5.6741E+00	5.4966E+00

SPECIES	MOL FRACTIONS	
E-	1.6677E-01	2.3786E-01
ME	1.8932E-01	1.5579E-01
PE+	1.4789E-04	1.6369E-03
ME++	7.0214E-19	8.7739E-17
H+	5.4728E-01	3.6255E-01
H++	1.0661E-09	1.3197E-05
H2	9.5827E-04	2.5621E-05

PI = 5-10E+02 N/SC-M. US1 = 3-00E+04 M/SC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P T	8.4557E+02	5.9047E+03	9.0567E+03
R	5.3201E+01	7.5240E+01	8.6622E+01
RND	8.6307E+00	3.2423E+01	4.3355E+01
M	1.5720E+02	2.7311E+02	3.9211E+02
A	5.2666E+00	1.2170E+01	1.3524E+01
A	1.8875E+00	1.9637E+00	2.3332E+00
S	1.8832E+00	2.2217E+00	2.4110E+00
Z	5.6471E-01	8.7395E-01	8.7571E-01
GA-F	2.2840E+01	5.7403E+00	4.4465E+00

SPECIES	MOL FRACTIONS	
E-	1.2386 ^a -C1	2.5737 ^a -C1
ME	1.6559 ^a -C1	1.4540 ^a -C1
P+	2.6439 ^a -C4	6.1302 ^a -C3
ME+	3.7205 ^a -17	2.9967 ^a -11
M	5.6663 ^a -C1	3.3282 ^a -C1
M+	1.2365 ^a -C1	2.4524 ^a -C1
M2	4.5531 ^a -C6	3.5714 ^a -C5
		3.1585 ^a -C1
		1.2395 ^a -C1
		2.1219 ^a -C2
		1.5055 ^a -C5
		2.4474 ^a -C1
		2.5443 ^a -C1
		2.0479 ^a -C5

Table I. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SC-M, US1 = 3.80E+04 M/SEC				P1 = 5.00E+02 N/SC-M, US1 = 4.40E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	M	P	T	RHO	M
1.4671E+03	1.0615E+04	1.6410E+04	1.1404E+02	1.8950E+03	1.4814E+04	2.3657E+04	1.5882E+02
6.6149E+01	9.8035E+01	4.2304E+01	5.452E+02	7.5858E+01	4.1285E+01	4.6246E+01	7.6634E+02
9.5551E+0C	4.4456E+02	1.5234E+01	1.7456E+01	1.0005E+01	5.9781E+02	1.8345E+01	2.342E+01
2.5227E+02	2.1806E+00	2.2741E+0C	2.9188E+0C	3.3817E+02	2.3412E+00	3.0187E+00	3.2205E+0C
1.122E+0C	8.8123E-01	9.1536E-01	7.0815E+0C	1.2750E+01	9.3750E-01	9.3750E-01	9.4216E+0C
2.0700E+00	6.9872E+00			2.4526E+00	8.2765E+0C		
2.2169E+0C				3.4130E+01			
8.5970E-0							
2.9339E+01							
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
F-	2.5574E-01	3.8582E-01	4.3471E-01	F-	3.3883E-01	4.5341E-01	4.8772E-01
HE	1.5425E-01	8.2677E-02	4.3506E-02	HE	1.2552E-01	3.0367E-02	6.5143E-03
HE+	3.6204E-03	4.7605E-02	7.6403E-02	HE+	1.4732E-02	8.5552E-02	1.3124E-01
HE++	5.6655E-13	5.4583E-08	1.4541E-0C	HE++	1.0845E-1C	4.2065E-06	5.0936E-04
H	3.3424E-01	1.4567E-01	8.7074E-02	H	1.4652E-01	6.2755E-02	1.8155E-02
H+	2.5212E-01	3.3822E-01	3.5830E-01	H+	3.2410E-01	3.6785E-01	3.8566E-01
H2	1.3033E-05	6.1861E-06	2.4123E-06	H2	3.9851E-06	1.0348E-0C	7.8521E-08

PI = 5.0CF+C2 N/SC-M, USI = 4.0GE+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5620E+C4	1.1988E+C4	1.86C4E+C4
T	6.9351E+01	1.0410E+02	1.24C8E+C2
RND	9.7584E+00	4.1110E+01	4.9359E+C1
M	2.7551E+02	4.9347E+02	6.18C4E+C1
A	1.1745E+01	1.5123E+01	1.8934E+01
S	2.1168E+00	2.2347E+00	2.3324E+C1
Z	2.3C88E+00	2.8012E+00	3.0376E+C1
GAME	8.6177E-01	8.9148E-01	9.5115E-C1
U	3.0942E+01	7.3477E+00	7.6288E+C1

SPECIES	MOLE FRACTIONS
E-	2.4538E-C1
HE	1.4550E-C1
HE+	5.5550E-C3
HE++	3.6707E-12
H	2.6370E-C1
H+	1.1420E-C1
H2	2.7545E-C1
	8.5742E-06
	4.1057E-01
	6.3750E-02
	6.1156E-02
	2.3667E-C7
	1.1420E-C1
	3.4978E-01
	3.7298E-C0
	4.5681E-C1
	2.8800E-C2
	8.8413E-C2
	7.58C0E-C6
	5.5578E-C2
	3.6838E-C1
	1.0702E-06

PI = 5.0CF+C2 N/SC-M, USI = 4.0GE+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7448E+C3	1.1390E+C4	4.0103E+C4
T	7.4575E+01	1.1C85E+02	1.1840E+12
RND	9.8933E+00	6.1529E+01	4.0212E+11
M	1.0815E+02	5.4466E+02	6.8827E+C2
A	1.2282E+01	1.7130E+01	2.3549E+C1
S	2.1540E+C0	2.4720E+00	2.3549E+C1
Z	2.6020E+00	2.0122E+00	3.1622E+C0
GAME	8.6316E-01	9.0904E-01	1.0075E+C0
U	1.2241E+01	7.7619E+C0	8.3913E+C1

SPECIES	MOLE FRACTIONS
E-	1.13C8E-C1
HE	1.2613E-C1
HE+	5.2755E-C3
HE++	2.6103E-11
H	2.3707E-C1
H+	6.7104E-C2
H2	3.6330E-C5
	4.2382E-06
	4.2341E-01
	4.6033E-02
	7.4143E-C2
	9.7459E-C7
	5.7396E-C8
	3.5213E-C2
	3.7811E-C1
	3.3922E-C7

PI = 5.0CF+C2 N/SC-M, USI = 4.0GE+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0732E+C3	1.6211E+04	2.6651E+C4
T	7.9311E+01	1.25C4E+02	1.8252E+02
RND	1.0C58E+01	4.2363E+01	4.4312E+11
M	3.6558E+02	6.5282E+02	8.5C14E+C2
A	1.3217E+01	1.9835E+01	2.4741E+11
S	2.255C+C0	2.3927E+00	2.5041E+C0
Z	2.5885E+00	3.1126E+00	3.2663E+C0
GAME	8.6379E-01	9.7565E-C1	1.0239E+C0
U	1.5716E+01	8.7291E+00	1.0548E+C1

SPECIES	MOLE FRACTIONS
E-	3.6459E-C1
HE	1.1346E-C1
HE+	2.1745E-C2
HE++	5.0C43E-10
H	1.6135E-11
H+	3.4088E-01
H2	4.5825E-C6
	4.6950E-01
	1.8209E-02
	9.4215E-C2
	2.4059E-C3
	4.2004E-02
	3.7505E-01
	4.2798E-C7
	4.9515E-C1
	3.8248E-C3
	9.5665E-02
	3.55C9E-C3
	9.4636E-C3
	3.8830E-C1
	1.8528E-C2

PI = 5.0CF+C2 N/SC-M, USI = 4.0GE+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0251E+C3	1.7849E+04	4.4112E+14
T	8.8240E+C1	1.6488E+02	2.0342E+02
RND	1.0717E+01	3.7837E+01	4.2510E+C1
M	4.024C+02	7.3740E+02	9.2328E+C2
A	1.0353E+01	4.1562E+01	4.5652E+C1
S	2.3C07E+C0	2.44C8E+C0	4.5513E+C0
Z	2.3C07E+C0	3.1851E+C0	3.2118E+C0
GAME	8.6316E-01	1.0250E+C0	9.0184E-C1
U	1.2241E+01	9.7619E+C0	1.0548E+C1

SPECIES	MOLE FRACTIONS
E-	3.8451E-C1
HE	3.0C70E-C1
HE+	3.26C0E-C2
HE++	4.111E-10
H	1.0717E-11
H+	3.4088E-01
H2	1.0C92E-C5
	4.2341E-01
	4.6033E-02
	1.0233E-C2
	7.4143E-C2
	9.7459E-C7
	5.7396E-C8
	3.5213E-C2
	3.7811E-C1
	3.3922E-C7

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

P1 = 5.00E+02 N/30-M, US1 = 5.80E+04 M/SEC

	MOVING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	3.2944E+03	2.3957E+04	4.2513E+04
T	1.0029E+02	2.1758E+02	2.8342E+02
RMU	1.0001E+01	3.2610E+01	4.2111E+01
M	3.8044E+02	1.0216E+03	1.3607E+03
A	1.7420E+01	2.6078E+01	3.1677E+01
S	4.2542E+00	2.6422E+00	2.7502E+00
Z	3.1044E+00	3.3764E+00	3.5616E+00
GAME	4.2732E+01	9.2569E+01	9.9342E+01
U	4.5022E+01	1.3648E+01	1.4147E+01

SPECIES	-----	MULE FRACTIONS	-----
E-	4.0244E+01	5.1132E-01	5.3072E-01
ME	4.5152E+02	1.3644E-03	3.1334E-04
ME+	8.1340E+02	7.4718E-02	2.2247E-02
HE+	1.5440E+00	2.7573E-02	7.5030E-02
M	3.5772E-02	3.5670E-03	1.8644E-03
M+	3.0205E-01	3.8146E-01	3.0344E-01
M2	4.8026E+00	1.8635E-09	6.3311E-10

P1 = 5.00E+02 N/30-M, US1 = 6.00E+04 M/SEC

	MOVING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	3.5162E+03	2.5047E+04	4.4276E+04
T	1.1250E+02	2.2922E+02	3.0081E+02
RMU	9.8366E+00	3.1962E+01	4.0386E+01
M	6.2770E+02	1.0907E+03	1.4672E+03
A	1.8618E+01	2.6891E+01	3.3498E+01
S	4.2502E+00	2.6798E+00	2.7404E+00
Z	3.1760E+00	3.4217E+00	3.5972E+00
GAME	5.0444E+01	9.2276E+01	1.0617E+02
U	4.0426E+01	1.4260E+01	1.4934E+01

SPECIES	-----	MULE FRACTIONS	-----
E-	4.0044E+01	5.1778E-01	5.4432E-01
ME	1.0714E+02	1.0046E-03	1.0338E-04
ME+	7.2400E+02	6.1810E-02	1.2400E-02
HE+	1.5403E+00	3.9475E-02	8.4488E-02
M	2.6932E+02	2.9119E-03	1.3923E-03
M+	3.0444E+01	3.7702E-01	3.5597E-01
M2	4.8100E+00	1.2062E-09	3.3044E-10

P1 = 5.00E+02 N/30-M, US1 = 5.20E+04 M/SEC

	MOVING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	2.6334E+03	2.0048E+04	3.4807E+04
T	9.0352E+01	1.7506E+02	2.3444E+02
RMU	1.0204E+01	3.5044E+01	4.3504E+01
M	4.7452E+02	8.2642E+02	1.0482E+03
A	1.5016E+01	2.4349E+01	2.7220E+01
S	2.4018E+00	2.5278E+00	2.6321E+00
Z	4.8602E+00	3.2670E+00	3.4112E+00
GAME	4.7194E+01	1.0347E+01	9.4203E+01
U	4.0444E+01	1.1821E+01	1.2462E+01

SPECIES	-----	MULE FRACTIONS	-----
E-	4.2304E+01	4.9494E-01	5.1034E-01
ME	8.4632E+02	3.5833E-03	1.3308E-03
ME+	5.2924E+02	1.0097E-01	6.3442E-02
HE+	2.9042E+00	2.5724E-03	3.7648E-02
M	8.4374E-02	9.0973E-03	3.6444E-03
M+	3.7016E-01	3.8883E-01	3.7742E-01
M2	8.0002E+07	1.4221E-08	2.5407E-09

P1 = 5.00E+02 N/30-M, US1 = 5.40E+04 M/SEC

	MOVING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	2.6312E+03	2.1330E+04	3.7517E+04
T	9.0352E+01	1.9101E+02	2.4802E+02
RMU	1.0204E+01	3.3849E+01	4.3511E+01
M	5.0902E+02	8.8842E+02	1.1844E+03
A	1.5679E+01	2.4878E+01	2.8442E+01
S	2.4444E+00	2.5663E+00	2.6719E+00
Z	2.9474E+00	3.2970E+00	3.4634E+00
GAME	4.8144E+01	9.8275E-01	7.3064E+01
U	4.1940E+01	1.2724E+01	1.2694E+01

SPECIES	-----	MULE FRACTIONS	-----
E-	4.0412E+01	4.9955E-01	5.2304E-01
ME	1.0714E+02	2.4985E-03	9.0034E-04
ME+	7.2400E+02	6.1810E-02	1.2400E-02
HE+	1.5403E+00	7.7104E-03	5.1333E-02
M	2.6932E+02	5.1102E-03	2.9217E-03
M+	3.0444E+01	3.6618E-01	3.7444E-01
M2	4.8100E+00	5.4293E-09	1.6220E-09

Table I. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/50-M. US1 = 6.20E+04 M/SEC					P1 = 5.00E+04 N/50-M. US1 = 6.00E+04 M/SEC				
SPECIES	MOLF FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	

E-	4.8830E-01	5.2408E-01	3.7597E+03	2.5722E+04	4.5974E+04	4.9207E+03	2.6619E+04	4.8704E+04	
ME	7.4404E-03	7.0663E-04	1.2444E+02	4.4005E+02	3.3636E+02	1.0105E+02	2.7877E+02	4.4230E+02	
ME+	1.0004E-01	4.8996E-02	6.0973E+02	3.0907E+01	3.7740E+01	8.2032E+00	2.6636E+01	3.0234E+01	
ME++	3.2203E-03	5.1251E-02	6.0973E+02	1.1666E+03	1.5749E+03	6.0259E+02	1.3709E+03	1.9052E+03	
M	1.4760E-02	2.3943E-03	4.0137E+01	2.7817E+01	3.5402E+01	4.3250E+01	3.1705E+01	4.0270E+01	
M+	3.0794E-01	3.7258E-01	4.6208E+00	2.7179E+00	2.8337E+00	4.0370E+00	2.8298E+00	2.9472E+00	
M2	1.3024E-00	7.0430E-10	1.0201E+00	9.2973E-01	1.0212E+00	1.0134E+00	3.5823E+00	3.6430E+00	
			4.7011E+01	1.4608E+01	1.5477E+01	3.1234E+01	1.5998E+01	1.9418E+01	
SPECIES	MOLF FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	

E-	4.8830E-01	5.2408E-01	3.7597E+03	2.5722E+04	4.5974E+04	4.9207E+03	2.6619E+04	4.8704E+04	
ME	7.4404E-03	7.0663E-04	1.2444E+02	4.4005E+02	3.3636E+02	1.0105E+02	2.7877E+02	4.4230E+02	
ME+	1.0004E-01	4.8996E-02	6.0973E+02	3.0907E+01	3.7740E+01	8.2032E+00	2.6636E+01	3.0234E+01	
ME++	3.2203E-03	5.1251E-02	6.0973E+02	1.1666E+03	1.5749E+03	6.0259E+02	1.3709E+03	1.9052E+03	
M	1.4760E-02	2.3943E-03	4.0137E+01	2.7817E+01	3.5402E+01	4.3250E+01	3.1705E+01	4.0270E+01	
M+	3.0794E-01	3.7258E-01	4.6208E+00	2.7179E+00	2.8337E+00	4.0370E+00	2.8298E+00	2.9472E+00	
M2	1.3024E-00	7.0430E-10	1.0201E+00	9.2973E-01	1.0212E+00	1.0134E+00	3.5823E+00	3.6430E+00	

PI = 5.00E+02 N/SEC US1= 7.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0709E+03	2.7291E+04	5.0709E+04
T	1.7379E+02	2.9700E+02	4.0400E+04
RHU	0.0945E+00	2.5475E+01	2.0700E+01
M	0.4990E+02	1.4457E+03	2.0312E+03
A	2.3407E+01	3.3479E+01	4.4000E+01
S	2.7711E+00	2.0627E+00	2.9791E+00
Z	3.3204E+00	3.6070E+00	3.6450E+00
NAME	9.5430E-01	1.0463E+00	1.1300E+00
U	5.2095E+01	1.6794E+01	2.0701E+01

SPECIES	MOLE FRACTIONS
Li	5.0300E-01
He	0.3017E-04
Ne	9.2322E-02
Ne++	9.2261E-02
H	8.0182E-02
H++	9.0110E-04
He	3.5943E-01
He	2.0920E-10
He	1.0597E-10

PI = 3.00E+02 N/SEC US1= 6.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0294E+03	2.5964E+04	4.0040E+04
T	1.3047E+02	2.5141E+02	3.6773E+02
RHU	0.0300E+00	2.9420E+01	3.4907E+01
M	0.1200E+02	1.2291E+03	1.6701E+03
A	2.0000E+01	2.8888E+01	3.8594E+01
S	2.0000E+00	2.7569E+00	2.8735E+00
Z	3.2015E+00	3.5104E+00	3.6300E+00
NAME	1.0704E+00	9.4555E-01	1.1100E+00
U	4.9030E+01	1.4907E+01	1.7090E+01

SPECIES	MOLE FRACTIONS
Li	5.2997E-01
He	4.6569E-04
Ne	2.2140E-05
Ne++	3.7590E-03
H	9.2363E-02
H++	1.9510E-03
He	7.0015E-04
He	3.5707E-01
He	7.1700E-11

PI = 3.00E+02 N/SEC US1= 6.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0294E+03	2.5964E+04	4.0040E+04
T	1.3047E+02	2.5141E+02	3.6773E+02
RHU	0.0300E+00	2.9420E+01	3.4907E+01
M	0.1200E+02	1.2291E+03	1.6701E+03
A	2.0000E+01	2.8888E+01	3.8594E+01
S	2.0000E+00	2.7569E+00	2.8735E+00
Z	3.2015E+00	3.5104E+00	3.6300E+00
NAME	1.0704E+00	9.4555E-01	1.1100E+00
U	4.9030E+01	1.4907E+01	1.7090E+01

SPECIES	MOLE FRACTIONS
Li	5.3512E-01
He	2.0743E-04
Ne	2.5222E-02
Ne++	7.4210E-02
H	1.5794E-03
H++	3.0649E-01
He	3.0638E-10

Table I. -- Continued

$$p_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+03 N/SQ-M, US1= 4.00E+03 M/SEC				P1 = 1.00E+03 N/SQ-M, US1= 7.00E+03 M/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK		MOVING SHOCK	STANDING SHOCK	
	REFLECTED SHOCK			REFLECTED SHOCK			REFLECTED SHOCK	
E-	1.8620E-51	5.9355E-33	3.9444E-19	2.8746E+01	7.2662E+01	1.3921E-14	2.6961E-11	
HE	3.5000E-01	3.5000E-01	3.4990E-01	4.4749E+00	6.5183E+00	3.4760E-01	3.3591E-01	
HE+	5.4729E-63	5.3699E-53	3.1454E-43	6.4259E+00	1.1144E+01	2.3247E-34	3.3812E-28	
HE++	0.	0.	0.	4.6130E+00	6.9028E+00	0.	0.	
H	1.3979E-09	1.4224E-06	5.6833E-04	2.0903E+00	2.4850E+00	1.3656E-02	8.1099E-02	
H+	8.1343E-20	8.1343E-20	4.6576E-19	1.0687E+00	1.0003E+00	1.3921E-14	2.6961E-11	
H2	6.5000E-01	6.5000E-01	6.4953E-01	1.0000E+00	1.0000E+00	6.3870E-01	5.8309E-01	
P	1.3967E+01	2.8746E+01	3.9444E-19	1.3967E+01	2.8746E+01	1.3921E-14	2.6961E-11	
T	3.5541E+00	4.4749E+00	3.4990E-01	3.5541E+00	4.4749E+00	3.4760E-01	3.3591E-01	
RHO	3.9293E+00	6.4259E+00	3.4990E-01	3.9293E+00	6.4259E+00	2.3247E-34	3.3812E-28	
M	3.6325E+00	4.6130E+00	3.1454E-43	3.6325E+00	4.6130E+00	0.	0.	
A	1.8730E+00	2.0903E+00	5.6833E-04	1.8730E+00	2.0903E+00	1.3656E-02	8.1099E-02	
S	1.0687E+00	1.0000E+00	4.6576E-19	1.0687E+00	1.0000E+00	1.3921E-14	2.6961E-11	
Z	1.0000E+00	1.0000E+00	4.6576E-19	1.0000E+00	1.0000E+00	6.3870E-01	5.8309E-01	
GAME	9.8771E-01	9.7659E-01	6.4953E-01	9.8771E-01	9.7659E-01	1.3921E-14	2.6961E-11	
U	2.5703E+00	1.5703E+00	6.4953E-01	2.5703E+00	1.5703E+00	1.3921E-14	2.6961E-11	

PI = 1.00E+03 N/SQ-M, US1 = 9.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2025E+01	5.6243E+01	1.2660E+02
T	4.9877E+00	6.6689E+00	8.8997E+00
RHC	4.4156E+00	8.4328E+00	1.4047E+01
H	5.1727E+00	7.0972E+00	1.0206E+01
A	2.1998E+00	2.5071E+00	2.7894E+00
S	1.0991E+00	1.1030E+00	1.1235E+00
Z	1.0000E+00	1.0004E+00	1.0091E+00
GAME	9.7317E-01	9.4209E-01	9.6642E-01
U	3.3340E+00	1.7468E+00	1.5231E+00

SPECIES	MOLE FRACTIONS
E-	1.7497E-29
HE	3.5000E-01
HE+	5.3977E-51
HE++	0.
H	1.4851E-05
H+	8.1343E-20
H2	6.4999E-01

PI = 1.00E+03 N/SQ-M, US1 = 5.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2025E+01	5.6243E+01	1.2660E+02
T	4.9877E+00	6.6689E+00	8.8997E+00
RHC	4.4156E+00	8.4328E+00	1.4047E+01
H	5.1727E+00	7.0972E+00	1.0206E+01
A	2.1998E+00	2.5071E+00	2.7894E+00
S	1.0991E+00	1.1030E+00	1.1235E+00
Z	1.0000E+00	1.0004E+00	1.0091E+00
GAME	9.7317E-01	9.4209E-01	9.6642E-01
U	3.3340E+00	1.7468E+00	1.5231E+00

SPECIES	MOLE FRACTIONS
E-	1.7497E-29
HE	3.5000E-01
HE+	5.3977E-51
HE++	0.
H	1.4851E-05
H+	8.1343E-20
H2	6.4999E-01

PI = 1.00E+03 N/SQ-M, US1 = 9.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2025E+01	5.6243E+01	1.2660E+02
T	4.9877E+00	6.6689E+00	8.8997E+00
RHC	4.4156E+00	8.4328E+00	1.4047E+01
H	5.1727E+00	7.0972E+00	1.0206E+01
A	2.1998E+00	2.5071E+00	2.7894E+00
S	1.0991E+00	1.1030E+00	1.1235E+00
Z	1.0000E+00	1.0004E+00	1.0091E+00
GAME	9.7317E-01	9.4209E-01	9.6642E-01
U	3.3340E+00	1.7468E+00	1.5231E+00

SPECIES	MOLE FRACTIONS
E-	1.7497E-29
HE	3.5000E-01
HE+	5.3977E-51
HE++	0.
H	1.4851E-05
H+	8.1343E-20
H2	6.4999E-01

PI = 1.00E+03 N/SQ-M, US1 = 6.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2025E+01	5.6243E+01	1.2660E+02
T	4.9877E+00	6.6689E+00	8.8997E+00
RHC	4.4156E+00	8.4328E+00	1.4047E+01
H	5.1727E+00	7.0972E+00	1.0206E+01
A	2.1998E+00	2.5071E+00	2.7894E+00
S	1.0991E+00	1.1030E+00	1.1235E+00
Z	1.0000E+00	1.0004E+00	1.0091E+00
GAME	9.7317E-01	9.4209E-01	9.6642E-01
U	3.3340E+00	1.7468E+00	1.5231E+00

SPECIES	MOLE FRACTIONS
E-	1.7497E-29
HE	3.5000E-01
HE+	5.3977E-51
HE++	0.
H	1.4851E-05
H+	8.1343E-20
H2	6.4999E-01

P1 = 1.00E+03 N/50-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.170E+02	7.849E+02	1.176E+03
T	1.211E+01	1.611E+01	1.790E+01
RHO	6.467E+00	3.717E+01	4.634E+01
M	2.190E+01	3.767E+01	4.594E+01
A	3.330E+00	4.221E+00	4.683E+00
S	1.293E+00	1.345E+00	1.390E+00
Z	1.142E+00	1.315E+00	1.412E+00
GAME	8.646E-01	6.402E-01	8.643E-01
U	6.361E+00	1.913E+00	1.869E+00

SPECIES	WOLF FRACTIONS
E-	1.403E-09
ME	3.069E-01
ME+	1.601E-23
ME++	5.815E-47
M	2.450E-01
M+	1.403E-09
M2	4.671E-01

P1 = 1.00E+03 N/50-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.464E+02	1.327E+03	1.535E+03
T	1.285E+01	1.767E+01	2.030E+01
RHO	9.167E+00	4.131E+01	4.996E+01
M	2.603E+01	4.513E+01	5.517E+01
A	3.521E+00	4.623E+00	5.290E+00
S	1.322E+00	1.393E+00	1.444E+00
Z	1.192E+00	1.406E+00	1.513E+00
GAME	5.095E-01	6.636E-01	9.071E-01
U	7.215E+00	2.064E+00	2.073E+00

SPECIES	WOLF FRACTIONS
E-	5.449E-09
ME	2.930E-01
ME+	3.621E-22
ME++	4.012E-46
M	3.222E-01
M+	5.449E-09
M2	3.941E-01

P1 = 1.00E+03 N/50-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.933E+02	1.569E+03	2.475E+03
T	1.433E+01	2.232E+01	3.202E+01
RHO	1.027E+01	4.453E+01	4.703E+01
M	3.513E+01	6.174E+01	7.893E+01
A	3.932E+00	5.826E+00	7.522E+00
S	1.408E+00	1.486E+00	1.549E+00
Z	1.311E+00	1.577E+00	1.641E+00
GAME	6.221E-01	5.611E-01	1.076E+00
U	1.399E+01	2.519E+00	3.043E+00

SPECIES	WOLF FRACTIONS
E-	5.316E-08
ME	2.667E-01
ME+	6.794E-20
ME++	9.467E-44
M	4.753E-01
M+	5.316E-08
M2	2.576E-01

P1 = 1.00E+03 N/50-M, US1 = 1.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.222E+02	1.819E+03	3.327E+03
T	1.518E+01	2.669E+01	4.387E+01
RHO	1.385E+01	5.103E+01	4.512E+01
M	4.023E+01	7.062E+01	6.243E+01
A	7.104E+00	6.774E+00	9.213E+00
S	1.450E+00	1.531E+00	1.595E+00
Z	1.378E+00	1.626E+00	1.658E+00
GAME	8.321E-01	1.057E+00	1.030E+00
U	1.171E+01	2.978E+00	3.623E+00

SPECIES	WOLF FRACTIONS
E-	1.313E-07
ME	4.514E-01
ME+	2.451E-19
ME++	2.647E-43
M	5.419E-01
M+	1.313E-07
M2	1.902E-01

Table I. - Continued
 $p_1 = 1 \text{ kW/m}^2$

$p_1 = 1.00E+03 \text{ N/SQ-M, USI} = 1.90E+04 \text{ W/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.544E+02	2.525E+03	6.548E+03
T	2.166E+01	4.766E+01	5.969E+01
RHO	1.064E+01	3.121E+01	4.251E+01
M	6.387E+01	1.103E+02	1.472E+02
A	6.013E+00	9.672E+00	9.791E+00
S	1.617E+00	1.662E+00	1.716E+00
Z	1.625E+00	1.697E+00	1.792E+00
GAME	1.028E+00	9.298E-01	8.562E-01
U	1.476E+01	4.751E+00	4.517E+00
SPECIES			
	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	4.000E-05	2.848E-02	7.975E-02
HE	2.152E-01	2.062E-01	1.949E-01
HE+	5.932E-13	2.021E-05	3.710E-04
HE++	3.416E-49	1.520E-20	7.140E-14
H	7.696E-49	7.360E-01	6.451E-01
H+	4.000E-05	2.946E-02	7.939E-02
H2	1.497E-02	7.650E-04	4.440E-04

$p_1 = 1.66E+03 \text{ N/SQ-M, USI} = 1.66E+04 \text{ W/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.537E+02	2.641E+03	3.553E+03
T	1.638E+01	3.747E+01	4.691E+01
RHO	1.084E+01	3.423E+01	4.495E+01
M	6.545E+01	7.978E+01	1.065E+02
A	4.441E+00	7.570E+00	4.663E+00
S	1.653E+00	1.545E+00	1.624E+00
Z	1.449E+00	1.644E+00	1.696E+00
GAME	8.490E-01	1.273E+00	5.496E-01
U	1.252E+01	3.567E+00	4.002E+00
SPECIES			
	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	4.411E-07	1.545E-03	2.174E-02
HE	2.417E-01	2.129E-01	2.377E-01
HE+	4.024E-14	1.008E-09	1.317E-05
HE++	2.234E-65	1.164E-21	4.431E-21
H	4.167E-01	7.793E-01	7.475E-01
H+	4.411E-07	1.545E-03	2.173E-02
H2	4.391E-01	4.769E-03	1.187E-03

P1 = 1.00E+03 N/SQ-M, US1 = 1.70E+04 M/SEC

	MUJING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.864E+02	2.2489E+03	4.0312E+03
T	1.725E+01	3.9273E+01	5.2059E+01
RHO	1.0941E+01	3.5467E+01	4.5116E+01
M	5.1415E+01	9.9393E+01	1.2223E+02
A	4.7843E+00	9.0370E+00	9.0700E+00
S	1.536E+00	1.6410E+00	1.6544E+00
Z	1.517E+00	1.6367E+00	1.7164E+00
GAME	8.743E+01	1.0189E+02	9.2668E+01
U	1.3312E+01	4.1040E+02	4.258CE+00

SPECIES	WOLF FRACTIONS
E-	1.4308E-06
ME	2.3302E-01
ME+	1.6208E-16
ME++	1.1600E-61
M	6.8214E-01
M+	1.4339E-06
M2	8.7233E-02
E-	6.1212E-03
ME	2.1127E-01
ME+	4.6949E-07
ME++	2.1370E-26
M	7.740E-01
M+	6.1208E-03
M2	2.0547E-03
E-	3.6494E-02
ME	2.0385E-01
ME+	6.3693E-05
ME++	1.0726E-18
M	7.1635E-01
M+	3.9444E-02
M2	8.0731E-04

P1 = 1.00E+03 N/SQ-M, US1 = 1.80E+04 M/SEC

	MUJING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2029E+02	2.4255E+03	4.3985E+03
T	1.891E+01	4.3417E+01	5.6298E+01
RHO	1.0706E+01	3.3378E+01	4.4567E+01
M	5.750E+01	9.9526E+01	1.3395E+02
A	5.2664E+00	8.3731E+00	5.4522E+00
S	1.5783E+00	1.6319E+00	1.6853E+00
Z	1.5913E+00	1.6737E+00	1.7331E+00
GAME	5.2711E-01	9.6479E-01	9.0524E-01
U	1.4064E+01	4.5097E+00	4.4447E+00

SPECIES	WOLF FRACTIONS
E-	9.0176E-06
ME	2.2144E-01
ME+	5.5248E-15
ME++	6.8417E-23
M	7.3337E-01
M+	6.0176E-02
M2	4.3476E-02
E-	1.5354E-02
ME	2.0911E-01
ME+	4.4593E-05
ME++	1.7416E-24
M	4.7843E-17
M+	6.8113E-01
M2	5.0231E-02
	5.7106E-04

P1 = 1.00E+03 N/SQ-M, US1 = 2.00E+04 M/SEC

	MUJING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8839E+02	2.5490E+03	4.5116E+03
T	2.5774E+01	2.1156E+01	6.2446E+01
RHO	9.1063E+00	2.8863E+01	3.9419E+01
M	7.0530E+01	1.2076E+02	1.6025E+02
A	6.8051E+00	8.9581E+00	1.3094E+01
S	1.6523E+00	1.6944E+00	1.7488E+00
Z	1.6436E+00	1.7254E+00	1.9326E+00
GAME	1.0930E+01	2.0473E-01	8.9037E-01
U	1.5337E+01	4.8736E+00	4.6554E+00

SPECIES	WOLF FRACTIONS
E-	3.2851E-06
ME	2.1244E-01
ME+	1.1140E-13
ME++	5.6181E-40
M	7.9219E-01
M+	3.2891E-04
M2	4.2033E-03
E-	4.4223E-02
ME	2.0270E-01
ME+	5.9157E-05
ME++	6.9321E-19
M	7.0823E-01
M+	4.1644E-02
M2	5.3452E-04
E-	9.9984E-02
ME	1.0333E-01
ME+	6.5798E-04
ME++	5.3894E-15
M	6.0937E-01
M+	9.0326E-02
M2	3.0266E-04

P1 = 1.00E+03 N/SQ-M, US1 = 2.10E+04 M/SEC

	MUJING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2354E+02	2.5937E+03	4.4955E+03
T	3.0422E+01	5.4230E+01	6.4965E+01
RHO	8.4342E+00	2.7175E+01	3.6900E+01
M	7.7491E+01	1.3197E+02	1.7348E+02
A	7.3184E+00	9.2420E+00	1.0392E+01
S	1.6823E+00	1.7446E+00	1.7803E+00
Z	1.6524E+00	1.7578E+00	1.8750E+00
GAME	1.0567E+01	9.9553E-01	8.8661E-01
U	1.5995E+01	4.9473E+00	4.7262E+00

SPECIES	WOLF FRACTIONS
E-	1.9249E-03
ME	2.0125E-01
ME+	1.3611E-04
ME++	2.6544E-17
M	6.771E-01
M+	6.1583E-02
M2	5.9572E-04
E-	1.1710E-02
ME	1.9994E-01
ME+	1.0667E-03
ME++	2.5734E-14
M	5.7363E-01
M+	1.1919E-01
M2	2.6010E-04

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued

$$P_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+03 N/SQ-M, US1 = 2.23E+04 M/SEC				P1 = 1.00E+03 N/SQ-M, US1 = 2.50E+04 M/SEC			
SPECIES	MOLE FRACTIONS		REFLECTED SHOCK	SPECIES	MOLE FRACTIONS		REFLECTED SHOCK
	MOVING SHOCK	STANDING SHOCK			MOVING SHOCK	STANDING SHOCK	
E-	6.368E-03	8.666E-02	1.410E-01	E-	3.711E-02	1.624E-01	2.652E-01
HE	2.195E-01	1.940E-01	1.805E-01	HE	2.042E-01	1.405E-01	1.630E-01
ME+	1.517E-07	2.744E-04	1.668E-03	ME+	1.458E-05	1.401E-03	5.551E-03
ME++	1.075E-28	1.667E-16	1.483E-13	ME++	1.573E-21	7.918E-14	1.249E-11
H	7.761E-01	6.436E-01	5.371E-01	H	7.212E-01	5.344E-01	4.263E-01
M+	6.068E-03	8.037E-02	1.393E-01	M+	3.713E-02	1.410E-01	1.997E-01
M2	7.177E-04	3.066E-04	2.061E-04	M2	2.287E-04	1.657E-04	1.139E-04
P	4.612E+02	2.704E+03	4.612E+03	P	5.927E+02	3.449E+03	5.680E+03
T	3.479E+01	5.717E+01	6.756E+01	T	4.464E+01	6.591E+01	7.616E+01
RHO	7.991E+03	2.636E+01	3.556E+01	RHO	7.745E+00	2.722E+01	3.592E+01
H	6.481E+01	1.440E+02	1.877E+02	H	1.051E+02	1.957E+02	2.343E+02
A	7.613E+00	9.545E+00	1.071E+01	A	6.280E+00	1.351E+01	1.181E+01
S	1.738E+00	1.753E+00	1.839E+00	S	1.734E+00	1.842E+00	1.894E+00
Z	1.659E+00	1.794E+00	1.920E+00	Z	1.713E+00	1.937E+00	2.075E+00
GAME	1.004E+00	8.882E-01	8.842E-01	GAME	8.960E-01	8.803E-01	8.824E-01
U	1.659E+01	5.024E+01	4.910E+00	U	1.876E+01	5.337E+00	5.142E+00

P1 = 1.00E+03 N/50-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.419E+02	3.7935E+03	6.2007E+03
T	4.718E+01	6.9743E+01	7.9202E+01
RHO	7.824E+00	2.7977E+01	3.6715E+01
H	1.1798E+02	2.0138E+02	2.3745E+02
A	8.511E+01	1.0924E+01	1.2205E+00
S	1.8007E+00	1.8579E+00	1.9218E+00
Z	1.7399E+00	1.8725E+00	2.1324E+00
GAME	9.3302E-01	9.9033E-01	8.8218E-01
U	1.9545E+01	5.4635E+00	5.2920E+00

SPECIES	MOLE FRACTIONS
E-	5.1289E-02
HE	2.0125E-01
HE+	3.4281E-05
HE++	3.5071E-20
H	6.9399E-01
H+	5.1255E-02
H2	1.8615E-04
	1.3742E-04
	2.2631E-01
	1.7518E-01
	2.2584E-03
	3.7432E-13
	6.9741E-01
	1.6138E-01
	2.1807E-01
	9.131E-03

P1 = 1.00E+03 N/50-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.947E+02	4.1212E+03	6.7699E+03
T	4.990E+01	7.1480E+01	8.2202E+01
RHO	7.825E+00	2.8815E+01	3.7578E+01
H	1.2723E+02	2.1774E+02	2.7744E+02
A	8.748E+01	1.1284E+01	1.2604E+01
S	1.8227E+00	1.8311E+00	1.9495E+00
Z	1.7673E+00	2.0225E+00	2.1901E+00
GAME	8.747E-01	8.8007E-01	8.8180E-01
U	2.0334E+01	5.5874E+00	5.4305E+00

SPECIES	MOLE FRACTIONS
E-	6.644E-02
HE	1.9795E-01
HE+	4.6776E-05
HE++	4.655E-19
H	6.6811E-01
H+	6.0572E-02
H2	1.4815E-04
	1.3742E-04
	1.8629E-01
	1.6969E-01
	3.3772E-03
	1.6939E-12
	4.0163E-01
	1.9091E-01
	2.3599E-01
	7.4803E-03

P1 = 1.00E+03 N/50-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0215E+02	2.8944E+03	4.8672E+03
T	3.859E+01	6.0391E+01	7.0314E+01
RHO	7.7814E+00	2.6265E+01	3.5167E+01
H	9.234E+01	1.5701E+02	2.0341E+02
A	7.8355E+00	9.8633E+00	1.1040E+01
S	1.7332E+00	1.7501E+00	1.8333E+00
Z	1.6724E+00	1.8342E+00	1.9694E+00
GAME	9.5157E-01	8.9393E-01	9.5329E-01
U	1.7276E+01	5.1156E+00	4.9124E+00

SPECIES	MOLE FRACTIONS
E-	1.3739E-02
HE	2.0125E-01
HE+	1.951E-04
HE++	1.551E-15
H	6.9399E-01
H+	5.1255E-02
H2	1.8615E-04
	1.3742E-04
	2.2631E-01
	1.7518E-01
	2.2584E-03
	3.7432E-13
	6.9741E-01
	1.6138E-01
	2.1807E-01
	9.131E-03

P1 = 1.00E+03 N/50-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.460E+02	3.1460E+03	5.2309E+03
T	4.183E+01	6.2076E+01	7.3159E+01
RHO	7.720E+00	2.6044E+01	3.5359E+01
H	1.000E+02	1.7399E+02	2.2322E+02
A	9.233E+00	1.2239E+01	1.1424E+01
S	1.7564E+00	1.8303E+00	1.9663E+00
Z	1.6907E+00	1.8774E+00	2.0213E+00
GAME	9.173E-01	8.8144E-01	8.8276E-01
U	1.8304E+01	5.2238E+00	5.0236E+00

SPECIES	MOLE FRACTIONS
E-	2.433E-02
HE	2.073E-01
HE+	4.920E-06
HE++	3.366E-19
H	7.437E-01
H+	2.433E-02
H2	3.022E-04
	1.3742E-04
	1.8629E-01
	1.6934E-01
	3.8134E-03
	3.0671E-12
	4.6282E-01
	1.8302E-01
	1.3551E-04

Table I. - Continued

$$p_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+02 N/50-M, US1 = 2.80E+04 M/SEC				P1 = 1.00E+03 N/50-M, US1 = 3.20E+04 M/SEC			
MOVING SHUCK				MOVING SHUCK			
STANDING SHUCK				STANDING SHUCK			
REFLECTED SHUCK				REFLECTED SHUCK			
SPECIES				SPECIES			
MULTI FRACTIONS				MULTI FRACTIONS			
E-	9.2555E-02	2.0466E-01	2.6634E-01	E-	1.4916E-01	2.7991E-01	3.3739E-01
ME	1.9450E-01	1.6384E-01	1.4120E-01	ME	1.7976E-01	1.3669E-01	1.0491E-01
HE+	1.2713E-04	4.8999E-03	1.4439E-02	HE+	7.5608E-04	1.6066E-02	3.5649E-02
ME+	4.1555E-18	6.7662E-12	5.0110E-10	HE+	2.8529E-15	6.7962E-10	2.4153E-08
H	6.4009E-01	4.2674E-01	3.2606E-01	H	5.2215E-01	3.0343E-01	2.2031E-01
M+	8.2468E-02	1.9977E-01	2.5190E-01	M+	1.4831E-01	2.6384E-01	3.0173E-01
M2	1.2323E-04	9.5991E-05	6.1453E-05	M2	6.4272E-05	4.6166E-05	2.7445E-05

PI = 1.00E+03 N/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.0333E+02	5.0197E+03	9.0592E+03
T	5.3690E+01	7.7250E+01	8.8477E+01
RHO	8.1714E+00	3.0534E+01	3.9457E+01
M	1.4673E+02	2.5254E+02	3.2018E+02
A	9.2293E+00	1.2324E+01	1.3415E+01
S	1.8642E+03	1.9342E+00	2.3351E+00
Z	1.8313E+03	2.1274E+00	2.3086E+00
GAME	8.6635E-01	8.8026E-01	8.8103E-01
U	2.1936E+01	5.8657E+00	5.7233E+00

SPECIES	MOLE FRACTIONS
E-	5.8976E-02
HE	1.9093E-01
HE+	2.1427E-04
HE++	2.8037E-17
H	6.1111E-01
H+	9.8752E-02
H2	1.6392E-04
	2.2448E-01
	1.5746E-01
	6.8598E-03
	2.4439E-11
	3.9330E-01
	2.1762E-01
	9.0394E-05
	2.8532E-01
	1.3281E-01
	1.8800E-02
	1.4612E-09
	2.9651E-01
	2.6652E-01
	5.0377E-05

PI = 1.00E+03 N/50-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.6147E+02	5.4834E+03	8.7674E+03
T	5.5634E+01	9.7375E+01	9.1625E+01
RHO	8.3000E+00	3.1392E+01	4.0367E+01
M	1.5735E+02	2.7096E+02	3.4283E+02
A	9.4733E+00	1.2399E+01	1.3827E+01
S	1.8655E+00	1.6599E+00	2.0324E+00
Z	1.8655E+00	2.1914E+00	2.3687E+00
GAME	8.6454E-01	3.5017E-01	9.9390E-01
U	2.2742E+01	6.0100E+00	5.8783E+00

SPECIES	MOLE FRACTIONS
E-	1.1500E-01
HE	1.8728E-01
HE+	3.4035E-03
HE++	1.5203E-16
H	5.9143E-01
H+	1.1576E-01
H2	9.9118E-03
	2.4366E-01
	1.2359E-01
	2.3937E-02
	3.5570E-09
	2.6914E-01
	2.7901E-01
	4.1265E-05

PI = 1.00E+03 N/50-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1164E+03	7.5822E+03	1.1966E+04
T	6.2800E+01	4.1303E+01	4.3491E+02
RHO	9.7881E+00	3.4537E+01	4.3094E+01
M	2.3173E+02	1.5112E+02	4.4199E+02
A	1.3467E+01	1.3467E+01	1.5603E+01
S	1.9757E+00	2.6001E+00	2.1641E+00
Z	2.0174E+00	2.4324E+00	2.6130E+00
GAME	8.6362E-01	9.7607E-01	8.8077E-01
U	2.5706E+01	6.6046E+00	6.5233E+00

SPECIES	MOLE FRACTIONS
E-	1.9725E-01
HE	1.7201E-01
HE+	1.4805E-01
HE++	3.4511E-14
H	4.6051E-01
H+	1.9266E-01
H2	4.7014E-05
	1.1320E-01
	1.2544E-01
	4.0134E-02
	4.4775E-03
	1.2309E-07
	1.7775E-01
	3.1902E-01
	1.7778E-05

PI = 1.00E+03 N/50-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2534E+03	8.7561E+03	1.3784E+04
T	6.6324E+01	7.7153E+01	1.1212E+02
RHO	8.9647E+00	3.5355E+01	4.4244E+01
M	2.2614E+02	3.0542E+02	4.4673E+02
A	1.0975E+01	1.4075E+01	1.6623E+01
S	2.6200E+00	2.1152E+00	2.2527E+00
Z	2.1002E+00	2.5145E+00	2.7344E+00
GAME	9.6524E-01	9.9141E-01	9.0374E-01
U	2.7514E+01	6.9174E+00	6.9154E+00

SPECIES	MOLE FRACTIONS
E-	2.1431E-01
HE	1.6507E-01
HE+	2.6302E-03
HE++	3.3761E-13
H	4.6073E-01
H+	2.1122E-01
H2	3.4411E-05
	3.4384E-01
	1.0302E-01
	3.6174E-02
	5.2709E-09
	1.4074E-01
	3.7066E-01
	3.3422E-01
	1.0000E-05

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued

$$p_1 = 1 \text{ kN/m}^2$$

p1 = 1.00E+03 N/SQ-M, US1= 3.80E+04 M/SEC				p1 = 1.00E+03 N/SQ-M, US1= 4.40E+04 M/SEC			
SPECIES	MOVING SHOCK			SPECIES	MOVING SHOCK		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.4516E-01	3.7179E-01	4.2298E-01	E-	3.2750E-01	4.4124E-01	4.8051E-01
HE	1.5953E-01	8.4863E-02	4.6947E-02	HE	1.2542E-01	1.5443E-02	1.6366E-02
HE+	4.5950E-03	4.8397E-02	7.5552E-02	HE+	1.7020E-02	4.3136E-02	4.9327E-02
HE++	2.2219E-12	9.9449E-09	2.4517E-06	HE++	3.2745E-10	5.5492E-06	4.1591E-04
H	3.5412E-01	1.7154E-01	1.0719E-01	H	2.2152E-01	4.2107E-02	2.8559E-02
M+	2.4357E-01	3.2339E-01	3.4743E-01	M+	3.1051E-01	3.5812E-01	3.8073E-01
M2	2.4592E-05	1.4330E-05	6.2235E-06	M2	9.4134E-06	3.3353E-06	3.5559E-07
----- MILE FRACTIONS -----				----- MILE FRACTIONS -----			
P	1.3998E+03	9.9956E+03	1.5727E+04	P	1.9964E+03	1.9739E+04	2.2637E+04
T	6.5751E+01	1.3349E+02	1.2052E+02	T	4.0164E+01	1.2455E+02	1.2350E+02
RHC	9.1813E+03	3.6915E+01	4.5636E+01	RHC	5.5876E+03	3.6590E+01	4.3575E+01
M	2.5232E+02	4.4125E+02	5.5366E+02	M	3.3787E+02	5.9393E+02	7.6510E+02
A	1.1496E+01	1.5497E+01	1.7819E+01	A	1.3074E+01	1.8577E+01	2.3299E+01
S	2.3654E+00	2.1675E+00	2.2600E+00	S	2.6224E+00	2.3229E+00	2.4310E+00
Z	2.1858E+00	2.4265E+00	2.8595E+00	Z	2.4539E+00	2.9537E+00	3.1752E+00
GAME	8.6677E-01	8.8693E-01	9.2121E-01	GAME	8.6844E-01	9.3824E-01	1.0744E+00
U	2.9186E+01	7.2637E+00	7.3502E+00	U	3.3296E+01	4.5547E+00	5.0755E+00

P1 = 1.00E+03 N/SQ-M, US1 = 4.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5561E+03	1.1296E+04	1.7831E+04
T	7.3184E+01	1.0944E+02	1.3090E+02
RHO	9.3383E+00	3.7697E+01	4.5717E+01
M	2.7924E+02	4.8992E+01	6.1899E+02
A	1.2015E+01	1.6395E+01	1.9286E+01
S	2.1113E+00	2.2198E+00	2.3176E+00
Z	2.2744E+00	2.7383E+00	2.9797E+00
GAME	8.6831E-01	9.9706E-01	9.5363E-01
U	3.6785E+01	7.6286E+00	7.9074E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.7442E-01	3.9738E-01	4.4625E-01
HE	1.4648E-01	6.6911E-02	3.0983E-02
HE+	7.4257E-03	6.0920E-02	8.6469E-02
HE++	1.3441E-11	3.9322E-27	1.1523E-05
H	3.0445E-01	1.3433E-01	7.6529E-02
H+	2.2744E+00	3.3645E-01	3.5976E-01
H2	1.7446E-05	5.1920E-06	3.0370E-06

P1 = 1.00E+03 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7161E+03	1.2231E+04	2.0118E+04
T	7.6650E+01	1.1644E+02	1.4453E+02
RHO	9.4726E+00	3.8493E+01	4.5727E+01
M	3.0786E+02	5.4376E+02	6.8835E+02
A	1.2545E+01	1.7434E+01	2.1115E+01
S	2.1567E+00	2.2710E+00	2.3744E+00
Z	2.3636E+00	2.8470E+00	3.0825E+00
GAME	8.6831E-01	9.9706E-01	9.5363E-01
U	3.6785E+01	7.6286E+00	7.9074E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.0103E-01	4.2058E-01	4.6570E-01
HE	1.3657E-01	5.0137E-02	1.9974E-02
HE+	1.1538E-02	7.2777E-02	9.4399E-02
HE++	7.0630E-11	4.4724E-26	5.2335E-05
H	2.5956E-01	1.0870E-01	4.9778E-02
H+	2.9021E-01	3.6743E-01	3.7118E-01
H2	1.2220E-05	5.5317E-06	1.1979E-06

P1 = 1.00E+03 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0337E+03	1.5355E+04	2.5351E+04
T	8.3749E+01	1.3429E+02	1.8652E+02
RHO	9.6962E+00	3.7499E+01	4.2020E+01
M	3.6929E+02	6.4869E+02	8.4837E+02
A	1.3667E+01	1.9458E+01	2.5626E+01
S	2.2487E+00	2.3726E+00	2.4841E+00
Z	2.5446E+00	3.0492E+00	3.2346E+00
GAME	8.6831E-01	9.9706E-01	1.0382E+00
U	3.6785E+01	7.6286E+00	1.0685E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.5142E-01	4.5888E-01	4.8989E-01
HE	1.1330E-01	2.3572E-02	6.6434E-03
HE+	2.6276E-02	9.1211E-02	9.9095E-02
HE++	1.3618E-09	2.1963E-05	2.4732E-05
H	1.8386E-01	5.8717E-02	1.6051E-02
H+	3.2714E-01	3.6762E-01	3.8585E-01
H2	5.7439E-05	1.4636E-06	1.0103E-07

P1 = 1.00E+03 N/SQ-M, US1 = 4.89E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2491E+03	1.6677E+04	2.9139E+04
T	9.7422E+01	1.4633E+02	2.0863E+02
RHO	9.7687E+00	3.6539E+01	4.1659E+01
M	4.0207E+02	7.0518E+02	9.3231E+02
A	1.4152E+01	2.1552E+01	2.5958E+01
S	2.2944E+00	2.4202E+00	2.5372E+00
Z	2.6337E+00	3.1332E+00	3.2814E+00
GAME	8.6831E-01	1.0141E+00	9.8427E-01
U	3.7155E+01	9.9706E+00	1.1578E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.7300E-01	4.7249E-01	4.9714E-01
HE	9.9427E-02	1.4674E-02	4.5241E-03
HE+	3.3038E-02	4.6746E-02	9.3167E-02
HE++	5.1112E-06	7.3329E-15	9.6839E-03
H	1.8531E-01	3.6756E-02	1.0144E-02
H+	3.4607E-01	3.7754E-01	3.8504E-01
H2	2.5846E-05	7.5631E-07	3.7609E-08

Table I. - Continued

$$P_1 = 1 \text{ kW/m}^2$$

P1 = 1.00E+03 N/SO-M, US1 = 5.00E+04 W/SEC				P1 = 1.00E+03 N/SO-M, US1 = 5.00E+04 W/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
----- MULT FRACTIONS -----				----- MULT FRACTIONS -----			
I-	3.9307E-01	4.9300E-01	5.416E-01	I-	4.4652E-01	5.0049E-01	5.2630E-01
HE	6.5533E-02	5.4226E-03	3.3523E-03	HE	4.1756E-02	3.3475E-03	1.1662E-03
HE+	4.3505E-02	9.9797E-02	9.2637E-02	HE+	7.5650E-02	9.0424E-02	4.1623E-02
HE++	1.7710E-04	4.1005E-04	1.9189E-02	HE++	5.7919E-07	1.1993E-02	5.7691E-02
H	1.2654E-01	2.4944E-02	7.5379E-03	H	6.5213E-02	7.6559E-03	3.9169E-03
H+	3.5042E-01	3.8238E-01	3.8315E-01	H+	3.7046E-01	3.8590E-01	3.6930E-01
HE	2.5671E-06	2.2045E-07	2.076E-09	HE	6.1447E-07	1.6336E-08	5.2969E-09
----- MULT FRACTIONS -----				----- MULT FRACTIONS -----			
P	2.4424E+03	1.7932E+04	3.3929E+04	P	3.0631E+03	2.1572E+04	3.6744E+04
T	5.1234E+01	1.4106E+02	2.2633E+02	T	1.0453E+02	2.3959E+02	2.7433E+02
RMC	9.8334E+00	3.4997E+01	4.0933E+01	RMC	9.8294E+00	3.1159E+01	4.0544E+01
H	4.3625E+02	7.5333E+02	1.0157E+03	H	5.4697E+02	9.4793E+02	1.2767E+03
A	1.4724E+00	2.3299E+01	2.8756E+01	A	1.6781E+01	2.5672E+01	3.0263E+01
S	2.3414E+00	2.4653E+00	2.5735E+00	S	2.4788E+00	2.5947E+00	2.6924E+00
Z	2.7266E+00	3.1915E+00	3.3277E+00	Z	2.9811E+00	3.3032E+00	3.4832E+00
GAPE	4.7244E-01	1.0483E+00	9.5352E-01	GAPE	9.0365E-01	9.6687E-01	9.5845E-01
J	3.8714E+01	1.0939E+01	1.2245E+01	J	4.3355E+01	1.3675E+01	1.3861E+01

P1 = 1.00E+03 N/50-M, US1 = 5.22E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.642E+03	1.9122E+04	3.3521E+04
T	9.525E+01	1.779E+02	2.4241E+02
RMC	9.973E+00	3.3237E+01	4.0024E+01
M	4.7180E+02	8.2217E+02	1.1002E+03
A	1.5336E+00	2.4549E+01	2.7733E+01
S	2.3074E+00	2.5080E+00	2.6140E+00
Z	2.814E+00	3.2347E+00	3.3790E+00
GAME	8.7854E-01	1.0474E+00	9.3895E-01
U	4.0277E+01	1.1950E+01	1.2901E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.1294E-01	4.8950E-01	5.1149E-01
HE	7.0652E-02	6.2458E-03	2.4642E-03
ME+	5.3877E-02	1.0026E-01	6.9363E-02
ME++	5.7670E-04	1.7075E-03	3.1755E-07
H	1.3348E-01	1.5645E-02	5.9166E-03
M+	3.5906E-01	3.8625E-01	3.7861E-01
M2	1.5675E-06	7.8166E-04	1.2325E-08

P1 = 1.00E+03 N/50-M, US1 = 5.43E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8503E+03	2.0344E+04	3.6213E+04
T	9.5587E+01	1.944E+02	2.5833E+02
RMC	9.8812E+00	3.2221E+01	4.092E+01
M	4.372E+02	4.9367E+02	1.1473E+03
A	1.6005E+01	2.5315E+01	2.8493E+01
S	4.432E+00	2.5468E+00	2.6534E+00
Z	2.8561E+00	3.2042E+00	3.4317E+00
GAME	8.6812E-01	1.0347E+00	9.4276E-01
U	4.1937E+01	1.2612E+01	1.3314E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.3007E-01	4.9513E-01	5.1915E-01
HE	5.5001E-02	4.4567E-03	1.7535E-03
ME+	4.4001E-02	5.7384E-02	5.5225E-02
ME++	1.8445E-07	5.6349E-03	4.4047E-02
H	9.341E-02	1.0515E-02	4.604E-03
M+	3.0355E+01	3.1724E-01	3.741E-01
M2	1.0246E-05	5.6236E-04	9.6777E-06

P1 = 1.00E+03 N/50-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2811E+03	2.2796E+04	4.1122E+04
T	1.1531E+02	2.2313E+02	2.947E+02
RMC	9.720E+00	5.0567E+01	3.9427E+01
M	5.9053E+02	1.3147E+03	1.3792E+03
A	1.7693E+01	2.6513E+01	3.1899E+01
S	2.5230E+00	2.6217E+00	2.7308E+00
Z	3.0037E+00	3.3624E+00	3.5333E+00
GAME	5.273E-01	9.6214E-01	9.5553E-01
U	4.4847E+01	1.4258E+01	1.4469E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.6049E-01	5.0649E-01	5.3202E-01
HE	2.9328E-02	2.5277E-03	7.0584E-04
ME+	8.5254E-02	9.3405E-02	2.9324E-02
ME++	1.5349E-05	2.1339E-02	6.9103E-02
H	4.9117E-02	5.0733E-03	3.1495E-03
M+	3.759E-01	3.8292E-01	3.6509E-01
M2	5.3101E-07	9.5913E-09	3.3516E-09

P1 = 1.00E+03 N/50-M, US1 = 6.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5337E+03	2.3894E+04	4.3219E+04
T	1.1733E+02	2.3545E+02	3.1647E+02
RMC	9.525E+00	2.9558E+01	3.8484E+01
M	6.273E+02	1.0955E+03	1.4499E+03
A	1.8457E+01	2.7211E+01	3.3918E+01
S	2.9672E+00	2.6599E+00	2.7739E+00
Z	3.1322E+00	3.3859E+00	3.5712E+00
GAME	9.6201E-01	9.3356E-01	1.2244E+00
U	4.6287E+01	1.4714E+01	1.5241E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.7321E-01	5.1269E-01	5.3797E-01
HE	1.8547E-02	1.4365E-03	3.7500E-04
ME+	6.324E-02	6.9285E-02	1.8842E-02
ME++	7.1278E-06	3.2149E-02	7.8149E-02
H	3.5051E-02	4.8465E-03	2.4365E-03
M+	3.8311E-01	3.7919E-01	3.6155E-01
M2	1.5673E-07	6.1295E-09	1.9318E-09

Table 1. - Continued

$$P_1 = 1 \text{ kN/m}^2$$

P1 = 1.0CF+03 N/50-M, US1 = 6.2DE+04 M/SEC				P1 = 1.0JE+03 N/50-M, US1 = 6.80F+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7277E+03	2.4716E+04	4.4936E+04	P	4.4124E+03	2.5591E+04	4.8059E+04
T	1.2634E+02	2.4725E+02	3.4636E+02	T	1.6455E+02	2.9537E+02	4.4317E+02
RHD	9.2442E+00	2.9141E+01	3.6583E+01	RHD	8.1772E+00	2.5647E+01	2.9812E+01
N	5.6932E+02	1.1532E+03	1.5737E+03	N	9.0221E+02	1.3654E+03	1.9332E+03
A	2.0154E+01	2.8165E+01	3.6148E+01	A	2.3677E+01	3.1665E+01	4.2679E+01
S	2.6056E+00	2.6561E+00	2.8105E+00	S	2.7194E+00	2.8361E+00	2.9259E+00
Z	3.1912E+00	3.4301E+00	3.6006E+00	Z	3.4281E+00	3.5511E+00	3.6377E+00
GAME	1.0075E+00	9.3526E-01	1.0662E+00	GAME	1.0296E+00	9.8911E-01	1.1209E+00
U	4.7659E+01	1.5133E+01	1.6103E+01	U	5.1442E+01	1.6388E+01	1.9463E+01
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
E-	4.8256E-01	5.1900E-01	5.4177E-01	L-	4.9770E-01	5.3536E-01	5.4641E-01
HE	1.0906E-02	1.4233E-03	1.7643E-04	HE	2.0191E-03	4.1475E-04	1.3726E-05
ME+	9.8839E-02	5.7193E-02	1.1470E-02	ME+	1.0214E-01	2.4751E-02	2.6477E-03
ME++	2.9514E-05	4.3415E-02	9.5553E-02	ME++	2.3146E-03	7.3354E-02	9.3554E-02
M	2.3366E-02	3.9975E-03	1.8282E-03	M	5.7277E-03	2.2161E-03	7.1015E-04
H+	3.8436E-01	3.7457E-01	3.5943E-01	H+	3.9642E-01	3.6194E-01	3.5646E-01
M2	6.3223E-06	4.0355E-09	1.0289E-09	M2	2.7531E-05	1.0820E-09	1.2541E-10

P1 = 1.00E+03 M/SQ-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6585E+03	2.6584E+04	4.9795E+04
T	1.7716E+02	3.3172E+02	4.8340E+02
RHO	7.9623E+03	2.4623E+01	2.8249E+01
M	8.494E+02	1.4394E+03	2.0251E+03
A	2.4316E+01	3.3242E+01	4.4687E+01
S	2.7523E+03	2.8396E+00	2.9287E+00
Z	3.3225E+00	3.5812E+00	3.6413E+00
GAME	9.8586E-01	1.0225E+00	1.1345E+00
U	5.2754E+01	1.7085E+01	2.0676E+01

SPECIES	MOLE FRACTIONS
E-	5.0038E-01
HE	1.5497E-03
HE+	9.8112E-02
HE++	6.3197E-13
H	4.0125E-03
H+	3.9963E-01
H2	1.2667E-09
	5.3926E-01
	2.4051E-04
	1.6550E-02
	9.0942E-02
	1.7855E-03
	3.6122E-01
	6.7065E-10
	5.4687E-01
	6.4203E-06
	1.8357E-03
	9.4277E-02
	5.3685E-04
	3.5645E-01
	6.8160E-11

P1 = 1.03E+03 M/SQ-M, US1 = 6.64E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9531E+03	2.5278E+04	4.6084E+04
T	1.3747E+02	2.5939E+02	3.7153E+02
RHO	9.8934E+03	2.8094E+01	3.4261E+01
M	7.1244E+02	1.2233E+03	1.6793E+03
A	2.1611E+01	2.9171E+01	3.8472E+01
S	2.6454E+00	2.7337E+00	2.9008E+00
Z	3.2335E+00	3.4741E+00	3.6203E+00
GAME	1.0511E+00	9.4543E-01	1.1094E+00
U	4.8907E+01	1.5499E+01	1.7150E+01

SPECIES	MOLE FRACTIONS
E-	4.0372E-01
HE	6.0491E-03
HE+	1.0244E-01
HE++	1.3613E-04
H	1.4647E-02
H+	3.9159E-01
H2	2.2437E-09
	5.2534E-01
	7.4554E-05
	6.7145E-03
	8.9883E-02
	1.3274E-03
	3.5774E-01
	5.0354E-10

P1 = 1.03E+03 M/SQ-M, US1 = 6.64E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1791E+03	2.5550E+04	4.6795E+04
T	1.5094E+02	2.7123E+02	4.0454E+02
RHO	9.9471E+03	2.8177E+01	3.1955E+01
M	7.5664E+02	1.2934E+03	1.7860E+03
A	2.2935E+01	3.6303E+01	4.0554E+01
S	2.6864E+00	2.7734E+00	2.8895E+00
Z	3.2621E+00	3.5145E+00	3.6312E+00
GAME	1.0682E+00	9.6124E-01	1.1197E+00
U	5.0143E+01	1.3470E+01	1.8219E+01

SPECIES	MOLE FRACTIONS
E-	4.9644E-01
HE	3.9405E-03
HE+	1.0334E-01
HE++	6.6945E-04
H	9.9350E-03
H+	3.8557E-01
H2	1.2667E-09
	5.3291E-01
	6.6751E-04
	3.4044E-02
	8.6644E-02
	4.0711E-03
	3.6770E+01
	2.3159E-10
	5.4563E-01
	3.7154E-05
	6.1476E-03
	9.2208E-02
	9.7171E-04
	3.6770E+01
	2.3159E-10

Table I. - Continued

$$p_1 = 2 \text{ kW m}^2$$

P1 = 2.00E+03 N/SQ-M, US1 = 4.00E+03 M/SEC				P1 = 2.00E+03 N/SQ-M, US1 = 7.00E+03 M/SEC			
SPECIES	WYLE FRACTIONS			SPECIES	WYLE FRACTIONS		
	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3967E+01	2.8746E+01	7.2678E+01	P	4.4169E+01	1.6359E+02	2.9957E+02
T	3.5561E+00	4.4740E+00	6.5236E+00	T	8.3302E+00	1.0854E+01	1.2421E+01
RMU	3.9293E+00	6.4257E+00	1.1138E+01	RMU	5.4274E+00	1.4276E+01	2.1544E+01
M	3.6325E+00	4.8130E+00	6.9341E+00	M	9.3103E+00	1.4201E+01	1.8648E+01
A	1.8736E+00	2.0503E+00	2.4890E+00	A	2.7195E+00	3.0563E+00	3.3196E+00
S	1.0695E+00	1.0711E+00	1.0996E+00	S	1.1642E+00	1.1773E+00	1.2050E+00
Z	1.0004E+00	1.0303E+00	1.0022E+00	Z	1.0054E+00	1.0364E+00	1.0793E+00
GAME	9.3771E-01	9.7641E-01	1.4946E-01	GAME	8.834E-01	9.3023E-01	8.2771E-01
U	2.5707E+00	1.5703E+00	1.4022E+00	U	4.8855E+00	1.8047E+00	1.5873E+00
E-	6.3710E-52	2.0634E-33	2.2342E-19	E-	1.0336E-14	3.0143E-11	8.5209E-10
ME	3.5030E-01	3.5030E-01	3.4993E-01	ME	3.4813E-01	3.4773E-01	3.4755E-01
ME+	7.7396E-63	7.5534E-53	2.9729E-43	ME+	7.0173E-34	3.6115E-27	4.3312E-23
ME++	0.	0.	0.	ME++	0.	0.	8.6277E-96
H	9.8971E-09	1.0058E-06	4.0639E-04	H	1.0642E-02	7.0297E-02	1.4527E-01
M+	8.1343E-20	8.1343E-20	3.475E-19	M+	1.0336E-14	3.0543E-11	8.5209E-10
M2	6.5600E-01	6.5000E-01	6.4964E-01	M2	6.4118E-01	5.9201E-01	5.3015E-01

PI = 2.03E+03 M/50-M, US1 = 0.30E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2025E+01	5.6200E+01	1.2697E+02
T	4.9878E+00	6.6733E+00	9.0116E+00
RHO	4.4155E+00	8.4189E+00	1.3988E+01
M	5.1727E+03	7.0018E+00	1.0233E+01
A	2.1999E+00	2.5123E+00	2.8218E+00
S	1.1025E+00	1.1066E+00	1.1278E+00
Z	1.0000E+00	1.0003E+00	1.0073E+00
GAME	9.7030E-01	9.4550E-01	8.7718E-01
U	3.3344E+00	1.7476E+00	1.5375E+00

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.0011E-12	2.0011E-12	0.0011E-12
ME	3.4246E-11	3.4246E-11	3.0734E-01
HE+	2.7377E-24	4.4623E-23	1.1113E-20
HE++	0.	7.657E-05	5.3247E-76
H	9.3651E-02	1.5400E-11	2.4379E-01
M+	2.0111E-12	9.3651E-12	9.8221E-03
M2	6.147E-01	5.2205E-01	4.4447E-01

PI = 2.03E+03 M/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5921E+01	3.9505E+02	6.1300E+02
T	1.6787E+01	1.9846E+01	1.5414E+01
RHO	2.7017E+00	2.4231E+01	3.2793E+01
M	1.4531E+01	2.4451E+01	3.0054E+01
A	3.4441E+00	3.6197E+00	3.9497E+00
S	1.2220E+00	1.4237E+00	1.2539E+00
Z	1.0501E+00	1.1444E+00	1.2132E+00
GAME	3.1795E-01	3.2415E-01	3.3410E-01
U	1.6337E+00	1.8248E+00	1.6065E+00

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	7.6731E-11	1.0234E-03	7.0936E-09
ME	3.3334E-01	3.0589E-01	2.8850E-01
HE+	4.1121E-26	1.0000E-20	1.0000E-19
HE++	0.	3.2128E-75	3.6141E-69
H	5.523E-02	2.0242E-01	3.5144E-01
M+	4.6741E-11	1.0023E-08	7.0000E-04
M2	5.7144E-01	4.6175E-01	3.6600E-01

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

PI = 2.00E+03 M/50-M, US1 = 5.30E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2025E+01	5.6200E+01	1.2697E+02
T	4.9878E+00	6.6733E+00	9.0116E+00
RHO	4.4155E+00	8.4189E+00	1.3988E+01
M	5.1727E+03	7.0018E+00	1.0233E+01
A	2.1999E+00	2.5123E+00	2.8218E+00
S	1.1025E+00	1.1066E+00	1.1278E+00
Z	1.0000E+00	1.0003E+00	1.0073E+00
GAME	9.7030E-01	9.4550E-01	8.7718E-01
U	3.3344E+00	1.7476E+00	1.5375E+00

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.1959E-30	0.1742E-19	9.0991E-14
ME	3.5006E-01	3.4999E-01	3.4747E-01
HE+	7.6440E-51	2.8562E-42	4.1031E-32
HE++	0.	0.	0.
H	1.0505E-05	6.2899E-04	1.4462E-02
M+	8.1343E-20	8.9873E-19	9.0991E-14
M2	6.4999E-01	6.4948E-01	6.3637E-01

PI = 2.00E+03 M/50-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2031E+01	9.7295E+01	1.9541E+02
T	6.6494E+00	8.9757E+00	1.0044E+01
RHO	4.0134E+00	1.7249E+01	1.7259E+01
M	7.0584E+00	1.0239E+01	1.4380E+01
A	2.5055E+00	2.8137E+00	3.2627E+00
S	1.1341E+00	1.1412E+00	1.1654E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.6332E-01	8.7275E-01	8.3324E-01
U	4.0937E+00	1.9320E+00	1.5697E+00

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.3752E-18	1.0029E-13	3.0314E-11
ME	3.4566E-01	3.4722E-01	3.4953E-01
HE+	1.710E-42	1.3117E-31	2.7335E-26
HE++	0.	0.	0.
H	7.9519E-04	1.5512E-02	6.5563E-02
M+	1.1555E-18	1.0029E-13	3.0314E-11
M2	6.4934E-01	6.3637E-01	6.3637E-01

P1 = 2.00E+03 N/SQ-M, US1 = 1.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1050E+02	7.4906E+02	1.1428E+03
T	1.2545E+01	1.0820E+01	1.9910E+01
RHC	8.2032E+00	3.4368E+01	4.3338E+01
M	2.1974E+01	3.7449E+01	4.6047E+01
A	3.3966E+00	4.2987E+00	4.7957E+00
S	1.2956E+00	1.3671E+00	1.3932E+00
Z	1.1337E+00	1.2972E+00	1.3640E+00
GAME	8.1237E-01	8.4915E-01	9.7219E-01
U	8.3251E+00	1.9879E+00	1.9434E+00

SPECIES	MILE FRACTIONS
E-	2.1533E-09
ME	3.0955E-01
HE+	8.7137E-23
HE++	2.6700E-93
M	2.3116E-01
M+	2.1503E-09
M2	4.5929E-01
E-	3.3696E-07
ME	2.6091E-01
HE+	3.5139E-17
HE++	6.0937E-43
M	4.5822E-01
M+	3.3496E-07
M2	2.7197E-01

P1 = 2.00E+03 N/SQ-M, US1 = 1.20E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3987E+02	9.7854E+02	1.4874E+03
T	1.3367E+01	1.0476E+01	2.1357E+01
RHC	8.8606E+00	3.9266E+01	4.6651E+01
M	2.6011E+01	4.4877E+01	5.3255E+01
A	3.5874E+00	4.7077E+00	5.3027E+00
S	1.3331E+00	1.3943E+00	1.4452E+00
Z	1.1809E+00	1.3841E+00	1.4532E+00
GAME	8.1551E-01	8.6600E-01	9.1214E-01
U	9.1755E+00	2.1258E+00	2.1511E+00

SPECIES	MILE FRACTIONS
E-	8.6377E-09
ME	2.9038E-01
HE+	2.1701E-21
HE++	3.3017E-74
M	3.0641E-01
M+	8.6377E-09
M2	3.9721E-01
E-	1.6714E-06
ME	4.3286E-01
HE+	1.1049E-15
HE++	2.3102E-57
M	5.9706E-01
M+	1.4716E-06
M2	1.9207E-01

P1 = 2.00E+03 N/SQ-M, US1 = 1.60E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9255E+02	1.4897E+03	2.3771E+03
T	1.4999E+01	2.3149E+01	3.2332E+01
RHC	9.8990E+00	4.1415E+01	4.5363E+01
M	3.9128E+01	6.1406E+01	7.8688E+01
A	4.0147E+00	5.8565E+00	7.5239E+00
S	1.4124E+00	1.4875E+00	1.5484E+00
Z	1.2977E+00	1.5540E+00	1.6332E+00
GAME	9.2963E-01	9.5355E-01	1.0722E+00
U	1.0448E+01	2.5937E+00	3.2533E+00

SPECIES	MILE FRACTIONS
E-	9.6376E-09
ME	2.6971E-01
HE+	4.1406E-19
HE++	6.6135E-71
M	4.5979E-01
M+	8.6376E-09
M2	2.7150E-01
E-	3.1267E-05
ME	2.2523E-01
HE+	1.9749E-12
HE++	1.0096E-45
M	7.1299E-01
M+	3.1267E-05
M2	6.1420E-02

P1 = 2.00E+03 N/SQ-M, US1 = 1.50E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2172E+02	1.7263E+03	2.9023E+03
T	1.5871E+01	2.7125E+01	4.0816E+01
RHC	1.0251E+01	3.9697E+01	4.2992E+01
M	4.0205E+01	7.3289E+01	9.2607E+01
A	4.2604E+00	6.7327E+00	9.3212E+00
S	1.4537E+00	1.5331E+00	1.5508E+00
Z	1.3627E+00	1.6111E+00	1.6542E+00
GAME	8.3924E-01	1.0301E+00	1.7257E+00
U	1.1607E+01	3.0130E+00	3.6406E+00

SPECIES	MILE FRACTIONS
E-	2.4376E-07
ME	2.3644E-01
HE+	4.7521E-14
HE++	7.6379E-39
M	5.3244E-01
M+	7.5614E-01
M2	1.9313E-06
E-	1.9319E-06
ME	4.1724E-01
HE+	1.5653E-13
HE++	7.6379E-39
M	5.9535E-25
M+	7.7107E-01
M2	6.2306E-03

Table 1. - Continued

 $P_1 = 2 \text{ kN/m}^2$

P1 = 2.00E+03 N/SQ-M, US1= 1.60E+04 M/SEC					P1 = 2.00E+03 N/SQ-M, US1= 1.90E+04 M/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK		MOVING SHOCK	STANDING SHOCK		REFLECTED SHOCK
	-----			-----			-----		
E-	6.9938E-17	1.1642E-03	3.5269E+02	1.9542E+03	3.4161E+03	3.5354E+02	2.4387E+03	4.4738E+03	7.2860E-02
HE	2.4464E-01	2.1374E-01	1.0471E+01	3.6281E+01	4.7946E+01	2.2274E+01	4.8626E+01	6.2313E+01	1.9638E-01
HE+	5.5625E-17	1.3057E-09	1.0471E+01	3.6576E+01	4.7946E+01	9.8399E+00	2.9721E+01	4.0375E+01	4.5230E-04
HE++	8.1279E-03	8.9413E-32	4.5624E+01	7.9449E+01	1.3656E+02	6.3851E+01	1.0949E+02	1.4812E+02	2.3702E-15
H	6.0233E-01	7.7516E-01	1.4559E+00	7.5748E+00	8.9267E+00	6.0072E+00	8.8278E+00	1.2037E+01	6.5712E-01
H+	6.9938E-07	1.1662E-03	1.4559E+00	1.5679E+00	1.6256E+00	1.0179E+00	1.6631E+00	1.7178E+00	7.2437E-02
H2	1.5332E-11	9.7756E-13	1.4307E+00	1.5375E+00	1.6770E+00	1.0130E+00	1.6874E+00	1.7782E+00	7.8121E-04
			9.5495E-01	1.0739E+01	9.6854E-01	1.0244E+02	9.4978E-01	9.0924E-01	
			1.2472E+01	3.5697E+00	4.3793E+00	1.4712E+01	4.8686E+00	4.7376E+00	

P1 = 2.00E+03 N/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.991E+02	2.491E+03	4.509E+03
T	2.605E+01	5.256E+01	6.525E+01
RHO	9.693E+00	2.766E+01	3.787E+01
M	7.051E+01	1.232E+02	1.614E+02
A	6.757E+00	9.131E+00	1.036E+01
S	1.652E+00	1.694E+00	1.749E+00
Z	1.637E+00	1.713E+00	1.817E+00
GAME	1.079E+00	5.259E+01	4.024E+01
U	1.334E+01	5.041E+00	4.442E+00

SPECIES	MOLE FRACTIONS
E-	2.615E-04
PE	2.137E-01
ME+	1.065E-10
HE++	7.201E-01
M	7.191E-01
H+	2.615E-04
M2	7.765E-02
	4.579E-04
	9.253E-02
	1.017E-01
	8.266E-04
	2.011E-14
	6.275E-01
	9.173E-02
	5.977E-04

P1 = 2.00E+03 N/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.232E+02	2.551E+03	4.507E+03
T	3.062E+01	5.601E+01	6.872E+01
RHO	9.396E+00	2.596E+01	3.549E+01
M	7.747E+01	1.319E+02	1.749E+02
A	7.371E+00	9.432E+00	1.087E+01
S	1.683E+00	1.724E+00	1.780E+00
Z	1.667E+00	1.743E+00	1.857E+00
GAME	1.072E+00	9.109E+01	8.977E+01
U	1.594E+01	5.166E+00	4.934E+00

SPECIES	MOLE FRACTIONS
E-	1.373E-03
ME	2.124E-01
ME+	6.457E-09
HE++	2.350E-17
M	7.817E-01
H+	1.379E-03
M2	2.846E-04
	5.460E-02
	2.304E-01
	1.512E-04
	3.229E-17
	6.933E-01
	5.980E-01
	1.104E-01
	4.649E-04

P1 = 2.00E+03 N/SQ-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.852E+02	2.150E+03	3.884E+03
T	1.838E+01	3.852E+01	5.360E+01
RHO	1.052E+01	3.381E+01	4.244E+01
M	5.138E+01	8.987E+01	1.204E+02
A	4.880E+00	8.125E+00	9.263E+00
S	1.537E+00	1.601E+00	1.656E+00
Z	1.499E+00	1.651E+00	1.708E+00
GAME	8.789E-01	1.037E+00	9.371E-01
U	1.325E+01	4.125E+00	4.374E+00

SPECIES	MOLE FRACTIONS
E-	2.134E-06
ME	2.334E-01
ME+	8.027E-16
HE++	1.497E-58
M	6.651E-01
H+	2.134E-06
M2	1.004E-01
	4.664E-03
	2.119E-01
	3.847E-07
	1.715E-26
	7.748E-01
	3.445E-02
	1.415E-03
	3.880E-03
	3.452E-02
	2.050E-01
	6.739E-05
	2.349E-19
	7.245E-01
	3.445E-02
	1.415E-03

P1 = 2.00E+03 N/SQ-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.151E+02	2.323E+03	4.267E+03
T	1.672E+01	4.395E+01	5.841E+01
RHO	1.035E+01	3.171E+01	4.169E+01
M	5.745E+01	9.028E+01	1.344E+02
A	5.335E+00	8.503E+00	9.670E+00
S	1.578E+00	1.632E+00	1.687E+00
Z	1.543E+00	1.666E+00	1.740E+00
GAME	9.230E-01	9.971E-01	9.106E-01
U	1.401E+01	4.571E+00	4.587E+00

SPECIES	MOLE FRACTIONS
E-	7.925E-06
ME	2.438E-01
ME+	1.957E-14
HE++	3.272E-54
M	7.200E-01
H+	7.823E-06
M2	5.544E-02
	1.210E-02
	2.100E-01
	3.376E-04
	7.509E-23
	7.532E-01
	1.215E-02
	2.610E-03
	5.327E-02
	2.304E-01
	2.037E-04
	1.355E-16
	6.919E-01
	5.305E-02
	1.334E-03

$$p_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/SQ-M, US1 = 2.50E+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.9036E+02	3.2579E+03	4.6007E+03
T	4.5926E+01	6.8703E+01	7.1212E+01
RMH	7.5447E+00	2.5204E+01	3.3991E+01
H	1.0932E+02	1.8441E+02	1.8631E+02
A	8.4507E+00	1.0774E+01	1.1034E+01
S	1.7811E+00	1.8335E+00	1.8095E+00
Z	1.7034E+00	1.9979E+00	1.9007E+00
GAME	9.1264E-01	8.9045E-01	9.5469E-01
U	1.9652E+01	5.5710E+00	5.0195E+00
SPECIES	----- MOLE FRACTIONS -----		
E-	3.2150E-02	1.3071E-01	1.3226E-01
HE	2.0537E-01	1.9219E-01	1.9669E-01
HE+	1.6336E-05	1.6798E-03	2.1095E-03
HE++	3.9375E-13	1.9692E-13	5.6399E-13
H	7.2901E-01	5.5505E-01	5.5306E-01
H+	3.2144E-02	1.2903E-01	1.3015E-01
H2	4.1246E-04	2.0946E-04	3.6487E-04
SPECIES	----- MOLE FRACTIONS -----		
E-	4.7134E-03	7.1824E-02	1.3226E-01
HE	2.1141E-01	1.9669E-01	1.9669E-01
HE+	1.3373E-07	3.1298E-04	2.1095E-03
HE++	1.2017E-28	4.3538E-16	5.6399E-13
H	7.7781E-01	6.5911E-01	5.5306E-01
H+	4.7134E-03	7.1511E-02	1.3015E-01
H2	1.3502E-03	5.5109E-04	3.6487E-04

P1 = 2.00E+03 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3903E+02	3.6105E+03	6.0343E+03
T	4.9777E+01	7.1912E+01	9.3720E+01
MHD	7.5875E+00	2.5877E+01	3.4314E+01
M	1.1734E+02	1.9991E+02	2.5036E+02
A	8.6942E+00	1.1139E+01	1.2502E+01
S	1.8335E+00	1.8596E+00	1.9197E+00
Z	1.7281E+03	1.5429E+00	2.1025E+00
GAPE	9.9745E-01	8.8927E-01	8.884E-01
U	1.9457E+01	5.7020E+00	5.5178E+00

SPECIES	MOLE FRACTIONS
E-	4.5522E-02
HE	2.0249E-01
HE+	4.0306E-05
HE++	1.018E-19
H	7.3014E-01
H+	4.5482E-02
H2	3.2463E-04
	1.5100E-01
	1.7752E-01
	4.0216E-03
	1.3218E-12
	5.2022E-01
	1.4839E-01
	2.0524E-01
	1.6981E-04

P1 = 2.00E+03 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.9014E+02	3.9596E+03	6.5718E+03
T	5.1293E+01	7.4903E+01	8.7039E+01
MHD	7.6885E+00	2.6562E+01	3.5048E+01
M	1.2703E+02	2.1597E+02	2.7833E+02
A	8.9387E+00	1.1509E+01	1.2902E+01
S	1.8244E+00	1.8934E+00	1.9464E+00
Z	1.7546E+03	1.9502E+00	2.1551E+00
GAPE	8.8781E-01	8.884E-01	8.9777E-01
U	2.0237E+01	5.8402E+00	5.6627E+00

SPECIES	MOLE FRACTIONS
E-	5.9991E-02
HE	1.9939E-01
HE+	6.3753E-05
HE++	1.018E-19
H	6.8346E-01
H+	5.6871E-02
H2	2.6455E-04
	1.7114E-01
	1.7195E-01
	3.9176E-03
	4.5736E-12
	4.8556E-01
	1.6722E-01
	2.2183E-01
	1.4184E-04

P1 = 2.00E+03 N/SQ-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0391E+02	2.7904E+03	4.8196E+03
T	3.9231E+01	6.2426E+01	7.4155E+01
MHD	7.6574E+00	2.6723E+00	3.3392E+01
M	1.2471E+02	1.5638E+02	2.0467E+02
A	7.5875E+00	1.0377E+01	1.1351E+01
S	1.7354E+00	1.7793E+00	1.9375E+00
Z	1.6677E+03	1.8138E+00	1.9464E+00
GAPE	5.7304E-01	4.9490E-01	9.0267E-01
U	1.7255E+01	5.3338E+00	5.1261E+00

SPECIES	MOLE FRACTIONS
E-	1.1135E-02
HE	2.0377E-01
HE+	1.0237E-01
HE++	3.8485E-04
HE+++	4.2101E-15
H	7.6699E-01
H+	6.2364E-02
H2	9.3185E-02
	4.4347E-04
	1.6457E-01
	1.7654E-01
	3.1925E-03
	2.5149E-12
	5.1792E-01
	1.4939E-01
	3.0356E-04

P1 = 2.00E+03 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.4426E+02	3.0244E+03	5.1462E+03
T	4.2793E+01	6.5575E+01	7.7293E+01
MHD	7.5541E+00	2.4973E+01	3.3362E+01
M	1.0051E+02	1.6981E+02	2.2144E+02
A	9.2141E+00	1.3417E+01	1.1725E+01
S	1.7594E+00	1.8052E+00	1.8655E+00
Z	1.6824E+03	1.9543E+00	1.9959E+00
GAPE	4.3648E-01	6.5245E-01	8.9119E-01
U	1.7947E+01	5.4472E+00	5.2471E+00

SPECIES	MOLE FRACTIONS
E-	2.0352E-02
HE	2.0749E-01
HE+	1.0237E-01
HE++	3.8485E-04
H	7.6574E+00
H+	2.0477E-02
H2	5.5243E-04
	1.0553E-01
	1.9773E-01
	1.0230E-03
	3.1994E-14
	5.7085E-01
	1.0695E-01
	2.4475E-04
	1.7357E-01
	1.7064E-01
	4.7119E-03
	1.0723E-11
	4.8146E-01
	1.6945E-01
	2.4475E-04

Table 1. - Continued

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/SQ-M, US1= 2.90E+04 M/SEC				P1 = 2.00E+03 N/SQ-M, US1= 3.20E+04 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK		REFLECTED SHOCK
	MOLE FRACTIONS						
E-	7.5129E-02	1.9095E-01	2.5372E-01	1.3922E-01	2.6469E-01	3.2363E-01	
HE	1.9608E-01	1.6602E-01	1.4172E-01	1.8159E-01	1.3835E-01	1.0558E-01	
HE+	1.5592E-03	5.6335E-03	1.6611E-02	9.6083E-04	1.7645E-02	3.7930E-02	
HE++	1.4374E-17	1.7900E-11	1.3975E-09	1.1125E-14	1.5604E-09	5.3410E-08	
H	6.5345E-01	4.5191E-01	3.5735E-01	5.3926E-01	3.5219E-01	2.4719E-01	
H+	7.4973E-02	1.6531E-01	2.3711E-01	1.3955E-01	2.4704E-01	2.8567E-01	
H2	2.1999E-04	1.7797E-04	1.1867E-04	1.1503E-04	9.1514E-05	5.7929E-05	
P	7.4351E+02	4.3381E+03	7.1559E+03	9.7851E+02	6.1139E+03	9.8977E+03	
T	5.3675E+01	7.7972E+01	9.3317E+01	6.2178E+01	9.0103E+01	1.0395E+02	
RHC	7.7659E+00	2.7296E+01	3.5941E+01	8.2082E+00	3.0243E+01	3.9074E+01	
M	1.3663E+02	2.3286E+02	2.9020E+02	1.7947E+02	3.0719E+02	3.9125E+02	
A	9.1874E+00	1.1991E+01	1.3306E+01	1.0201E+01	1.2376E+01	1.5008E+01	
S	1.8463E+03	1.9352E+00	1.9735E+00	1.9310E+03	2.0246E+03	2.0919E+00	
Z	1.7836E+00	2.0390E+00	2.2106E+00	1.9179E+00	2.2437E+00	2.4392E+00	
GAME	8.8163E-01	8.9782E-01	8.9693E-01	8.7298E-01	9.9505E-01	9.9922E-01	
U	2.1026E+01	5.9817E+00	5.9109E+00	2.4220E+01	6.5681E+00	6.4390E+00	
SPECIES	----- MOLE FRACTIONS -----		SPECIES	----- MOLE FRACTIONS -----			

P1 = 2.00E+03 N/50-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.138E+03	7.1370E+03	1.149E+04
T	6.637E+01	7.61E+01	1.115E+02
RHO	8.415E+00	1.16E+01	4.345E+01
M	2.618E+02	3.492E+02	4.41E+02
A	1.07E+01	1.413E+01	1.594E+01
S	1.576E+00	2.547E+00	2.136E+00
Z	1.992E+00	2.345E+00	2.56E+00
GAME	9.727E-01	8.947E-01	9.749E-01
U	2.582E+01	6.8759E+01	6.744E+00

SPECIES	MOLE FRACTIONS
E-	1.718E-01
HE	1.737E-01
HE+	1.94E-01
HE++	1.347E-01
H	4.92E-01
H+	1.63E-01
H2	8.53E-01

P1 = 2.00E+03 N/50-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.262E+03	9.2377E+03	1.320E+04
T	6.98E+01	1.022E+02	1.198E+02
RHO	9.41E+00	3.29E+01	4.153E+01
M	2.25E+02	3.6E+02	4.673E+02
A	1.12E+01	1.422E+01	1.66E+01
S	2.01E+00	2.175E+00	2.15E+00
Z	2.071E+00	2.456E+00	2.475E+00
GAME	9.73E-01	8.947E-01	9.749E-01
U	2.742E+01	7.105E+01	7.179E+00

SPECIES	MOLE FRACTIONS
E-	2.23E-01
HE	1.05E-01
HE+	3.39E-01
HE++	1.17E-01
H	4.27E-01
H+	2.06E-01
H2	6.36E-01

P1 = 2.00E+03 N/50-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.990E+02	4.744E+03	7.783E+03
T	5.593E+01	9.102E+01	9.367E+01
RHO	7.873E+00	2.803E+01	3.664E+01
M	1.465E+02	2.504E+02	3.209E+02
A	9.438E+00	1.224E+01	1.371E+01
S	1.9677E+00	1.930E+00	2.005E+00
Z	1.814E+00	2.089E+00	2.265E+00
GAME	9.776E-01	9.871E-01	9.961E-01
U	2.182E+01	6.126E+00	5.962E+00

SPECIES	MOLE FRACTIONS
E-	9.089E-02
HE	1.920E-01
HE+	2.667E-04
HE++	1.019E-03
H	6.309E-01
H+	4.197E-01
H2	2.024E-01

P1 = 2.00E+03 N/50-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.569E+02	5.178E+03	9.455E+03
T	5.8077E+01	8.406E+01	9.701E+01
RHO	7.987E+00	2.879E+01	3.750E+01
M	1.568E+02	2.687E+02	3.435E+02
A	9.895E+00	1.262E+01	1.413E+01
S	1.888E+00	1.954E+00	2.027E+00
Z	1.847E+00	2.139E+00	2.323E+00
GAME	8.751E-01	8.864E-01	9.863E-01
U	2.262E+01	6.274E+00	6.117E+00

SPECIES	MOLE FRACTIONS
E-	1.06E-01
HE	1.89E-01
HE+	4.27E-04
HE++	5.69E-01
H	5.97E-01
H+	1.364E-01
H2	1.580E-04

Table 1. - Continued

P1 = 2.00E+03 N/5Q-M, US1= 3.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3921E+03	9.4126E+03	1.5066E+04
T	7.3630E+01	1.9954E+02	1.2774E+02
RHU	8.7835E+00	3.3847E+01	4.2198E+01
H	2.5174E+02	4.3783E+02	5.5612E+02
M	1.1765E+01	1.5753E+01	1.8197E+01
A	2.6624E+00	2.1551E+00	2.2474E+00
S	2.1532E+00	2.5621E+00	2.7950E+00
Z	9.7464E-01	9.9232E-01	9.2746E-01
GAME	2.9024E+01	7.5256E+00	7.6290E+00
U			

P1 = 2.00E+03 N/5Q-M, US1= 4.643E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8767E+03	1.3239E+04	2.1268E+04
T	6.4794E+01	1.3395E+02	1.6992E+02
RHU	9.1842E+00	3.5040E+01	4.3346E+01
H	3.3754E+02	5.9642E+02	7.6654E+02
M	1.3363E+01	1.9642E+01	2.3418E+01
A	2.1947E+00	2.3357E+00	2.4134E+00
S	2.4394E+00	2.8904E+00	3.1183E+00
Z	8.7427E-01	9.4044E-01	1.0740E+00
GAME	3.3756E+01	8.8550E+00	9.7789E+00
U			

P1 = 2.00E+03 N/5Q-M, US1= 4.643E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8767E+03	1.3239E+04	2.1268E+04
T	6.4794E+01	1.3395E+02	1.6992E+02
RHU	9.1842E+00	3.5040E+01	4.3346E+01
H	3.3754E+02	5.9642E+02	7.6654E+02
M	1.3363E+01	1.9642E+01	2.3418E+01
A	2.1947E+00	2.3357E+00	2.4134E+00
S	2.4394E+00	2.8904E+00	3.1183E+00
Z	8.7427E-01	9.4044E-01	1.0740E+00
GAME	3.3756E+01	8.8550E+00	9.7789E+00
U			

P1 = 2.00E+03 N/5Q-M, US1= 3.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3921E+03	9.4126E+03	1.5066E+04
T	7.3630E+01	1.9954E+02	1.2774E+02
RHU	8.7835E+00	3.3847E+01	4.2198E+01
H	2.5174E+02	4.3783E+02	5.5612E+02
M	1.1765E+01	1.5753E+01	1.8197E+01
A	2.6624E+00	2.1551E+00	2.2474E+00
S	2.1532E+00	2.5621E+00	2.7950E+00
Z	9.7464E-01	9.9232E-01	9.2746E-01
GAME	2.9024E+01	7.5256E+00	7.6290E+00
U			

P1 = 2.00E+03 N/5Q-M, US1= 3.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3921E+03	9.4126E+03	1.5066E+04
T	7.3630E+01	1.9954E+02	1.2774E+02
RHU	8.7835E+00	3.3847E+01	4.2198E+01
H	2.5174E+02	4.3783E+02	5.5612E+02
M	1.1765E+01	1.5753E+01	1.8197E+01
A	2.6624E+00	2.1551E+00	2.2474E+00
S	2.1532E+00	2.5621E+00	2.7950E+00
Z	9.7464E-01	9.9232E-01	9.2746E-01
GAME	2.9024E+01	7.5256E+00	7.6290E+00
U			

P1 = 2.00E+03 N/5Q-M, US1= 3.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3921E+03	9.4126E+03	1.5066E+04
T	7.3630E+01	1.9954E+02	1.2774E+02
RHU	8.7835E+00	3.3847E+01	4.2198E+01
H	2.5174E+02	4.3783E+02	5.5612E+02
M	1.1765E+01	1.5753E+01	1.8197E+01
A	2.6624E+00	2.1551E+00	2.2474E+00
S	2.1532E+00	2.5621E+00	2.7950E+00
Z	9.7464E-01	9.9232E-01	9.2746E-01

P1 = 2.00E+03 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0530E+03	1.4514E+04	2.4254E+04
T	8.8578E+01	1.4048E+02	1.9155E+02
RMC	9.2857E+00	3.4710E+01	3.9694E+01
H	3.6853E+02	6.4417E+02	8.4636E+02
A	1.3907E+01	2.0137E+01	2.5232E+01
S	2.2344E+00	2.3537E+00	2.4449E+00
Z	2.4967E+00	2.9767E+00	3.1933E+00
GAME	8.7457E-01	9.6967E-01	1.0419E+00
U	3.5375E+01	9.4588E+00	1.0001E+01

SPECIES	MOLE FRACTIONS
E-	3.3914E-01
HE	1.1330E-01
ME+	2.6831E-02
HE++	3.5547E-09
H	2.0441E-01
H+	3.1226E-01
MZ	1.2646E-05
	4.4570E-01
	2.9655E-02
	8.7999E-02
	2.5723E-05
	7.8966E-02
	3.5775E-01
	4.9574E-06

P1 = 2.00E+03 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2383E+03	1.5705E+04	2.6596E+04
T	9.2525E+01	1.5234E+02	2.1424E+02
RMC	9.3710E+00	3.3915E+01	3.9780E+01
H	4.0177E+02	7.0600E+02	9.3141E+02
A	1.4400E+01	2.1625E+01	2.6407E+01
S	2.2344E+00	2.4305E+00	2.5131E+00
Z	2.5836E+00	3.0632E+00	3.2315E+00
GAME	9.7622E-01	1.0361E+00	1.1234E+00
U	3.6957E+01	1.0238E+01	1.1782E+01

SPECIES	MOLE FRACTIONS
E-	3.6137E-01
HE	1.0301E-01
ME+	3.3451E-02
HE++	1.2116E-09
H	1.7774E-01
H+	3.2511E-01
MZ	9.9555E-06
	4.6134E-01
	2.3859E-02
	3.3311E-02
	5.2605E-05
	6.6336E-03
	1.6755E-02
	3.6795E-01
	2.2335E-05

P1 = 2.00E+03 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5457E+03	1.0636E+04	1.7080E+04
T	7.7321E+01	1.1520E+02	1.3844E+02
RMC	9.9349E+00	3.4557E+01	4.2353E+01
H	2.7855E+02	4.8616E+02	6.1946E+02
A	1.2295E+01	1.6666E+01	1.9645E+01
S	2.1066E+00	2.2061E+00	2.3030E+00
Z	2.2374E+00	2.6702E+00	2.9129E+00
GAME	6.7440E-01	9.0249E-01	9.5699E-01
U	3.0520E+01	7.9144E+00	9.1900E+00

SPECIES	MOLE FRACTIONS
E-	2.6259E-01
HE	1.4741E-01
ME+	9.0247E-03
HE++	4.5847E-11
H	3.2735E-01
H+	2.5346E-01
MZ	3.4033E-05
	3.8210E-01
	7.0569E-02
	6.0504E-02
	6.4911E-07
	1.6521E-01
	3.2149E-01
	2.1498E-05

P1 = 2.00E+03 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7072E+03	1.1906E+04	1.6279E+04
T	9.1041E+01	1.2257E+02	1.5214E+02
RMC	9.3675E+00	3.4933E+01	4.1803E+01
H	3.6755E+02	5.3675E+02	6.9959E+02
A	1.2831E+01	1.7677E+01	2.1410E+01
S	2.1500E+00	2.2502E+00	2.3599E+00
Z	2.3232E+00	2.7766E+00	3.0243E+00
GAME	8.7440E-01	9.1419E-01	9.9722E-01
U	3.2233E+01	8.3459E+00	8.9034E+00

SPECIES	MOLE FRACTIONS
E-	2.9940E-01
HE	1.3761E-01
ME+	1.3504E-02
HE++	2.2224E-10
H	2.8332E-01
H+	2.7621E-01
MZ	2.4686E-06
	4.0577E-01
	5.4404E-02
	7.1211E-02
	2.2244E-06
	1.3362E-01
	3.3659E-01
	1.4134E-05

Table I. - Continued

$$p_1 = 2 \text{ kN/m}^2$$

P1 = 2.30E+03 N/50-M, US1 = 5.03E+04 M/SEC				P1 = 2.00E+03 N/50-M, US1 = 5.60E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	M	P	T	RHO	M
2.430E+03	1.762E+04	2.958E+04	3.049E+04	3.049E+04	2.052E+04	3.732E+04	3.732E+04
9.647E+01	1.657E+02	2.336E+02	1.102E+02	1.102E+02	2.140E+02	2.845E+02	2.845E+02
9.432E+02	3.277E+01	3.845E+01	9.452E+00	9.452E+00	2.934E+01	3.809E+01	3.809E+01
4.358E+02	7.581E+02	1.315E+03	5.465E+02	5.465E+02	9.419E+02	1.278E+03	1.278E+03
1.505E+01	2.319E+01	2.720E+01	1.712E+01	1.712E+01	2.631E+01	3.809E+01	3.809E+01
2.320E+02	2.446E+02	2.553E+02	2.462E+00	2.462E+00	2.564E+00	2.673E+00	2.673E+00
2.073E+04	9.133E+03	3.289E+03	2.923E+00	2.923E+00	3.265E+00	3.443E+00	3.443E+00
9.793E+01	1.035E+00	9.682E+01	9.091E+01	9.091E+01	9.907E+01	9.611E+01	9.611E+01
3.852E+01	1.139E+01	1.251E+01	4.314E+01	4.314E+01	1.388E+01	1.424E+01	1.424E+01
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.359E-01	4.947E-01	5.208E-01	E-	4.359E-01	4.947E-01	5.208E-01
HE	4.487E-02	5.974E-03	2.309E-03	HE	4.487E-02	5.974E-03	2.309E-03
HE+	7.477E-02	9.274E-02	9.891E-02	HE+	7.477E-02	9.274E-02	9.891E-02
HE++	9.607E-07	8.452E-05	5.041E-02	HE++	9.607E-07	8.452E-05	5.041E-02
H	8.321E-02	1.294E-02	6.395E-03	H	8.321E-02	1.294E-02	6.395E-03
H+	3.611E-01	3.851E-01	3.711E-01	H+	3.611E-01	3.851E-01	3.711E-01
H2	1.763E-06	8.618E-08	2.598E-06	H2	1.763E-06	8.618E-08	2.598E-06

P1 = 2.00E+03 N/50-M, US1 = 5.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2675E+03	2.1681E+04	3.9689E+04
T	1.1600E+02	2.2865E+02	3.0254E+02
RHO	9.3664E+00	2.8695E+01	3.7561E+01
M	5.8605E+02	1.0080E+03	1.3722E+03
A	1.8009E+01	2.6962E+01	3.2203E+01
S	2.5066E+00	2.6013E+00	2.7111E+00
Z	3.0033E+00	3.3043E+00	3.4919E+00
GAME	9.2970E-01	9.6215E-01	9.9157E-01
U	4.4654E+01	1.4571E+01	1.4043E+01

SPECIES	MOLE FRACTIONS
E-	4.5097E-01
HE	3.2931E-02
ME+	8.3527E-02
ME++	2.8561E-06
H	6.5129E-02
HO	3.6744E-01
H2	1.0343E-04
	5.005E-01
	4.6448E-03
	8.5289E-02
	1.5947E-02
	9.9919E-03
	3.8343E-01
	4.9291E-08
	5.2747E-01
	1.5204E-03
	3.7010E-02
	6.1702E-02
	5.2344E-03
	3.6704E-01
	1.7164E-08

P1 = 2.00E+03 N/50-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4961E+03	2.2773E+04	4.1843E+04
T	1.2294E+02	2.4206E+02	3.2329E+02
RHO	9.2208E+00	2.8120E+01	3.6607E+01
M	6.2886E+02	1.0742E+03	1.4497E+03
A	1.9043E+01	2.7701E+01	3.4050E+01
S	2.5483E+00	2.6377E+00	2.7495E+00
Z	3.0789E+00	3.3454E+00	3.5354E+00
GAME	9.5904E-01	9.6790E-01	1.0114E+00
U	4.4100E+01	1.5113E+01	1.5538E+01

SPECIES	MOLE FRACTIONS
E-	4.4409E-01
HE	2.2838E-02
ME+	9.0638E-02
ME++	8.9695E-06
H	8.9905E-02
HO	3.7324E-01
H2	5.5554E-07
	5.0682E-01
	3.6342E-03
	7.5648E-02
	2.5332E-02
	1.7444E-02
	4.1929E-03
	3.6349E-03
	1.0722E-08

P1 = 2.00E+03 N/50-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6363E+03	1.8223E+04	3.2218E+04
T	1.0649E+02	1.9154E+02	2.5113E+02
RHO	9.4776E+00	3.1494E+01	3.8425E+01
M	4.7139E+02	8.1762E+02	1.1612E+03
A	1.5675E+01	2.4615E+01	2.8254E+01
S	2.3737E+00	2.4964E+00	2.5956E+00
Z	2.7564E+00	3.1875E+00	3.3431E+00
GAME	9.8534E-01	1.0473E+01	9.5195E-01
U	4.0090E+01	1.2053E+01	1.3123E+01

SPECIES	MOLE FRACTIONS
E-	4.0143E-01
HE	7.1973E-02
ME+	5.4966E-02
ME++	1.1433E-07
H	1.2515E-01
HO	3.4644E-01
H2	4.2455E-05
	4.8235E-01
	1.0474E-02
	9.8114E-02
	1.1820E-03
	2.6074E-02
	9.5943E-03
	3.7961E-01
	3.9144E-01
	5.5378E-08

P1 = 2.00E+03 N/50-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8307E+03	1.5361E+04	3.4839E+04
T	1.6523E+02	1.9935E+02	2.6751E+02
RHO	9.4851E+00	3.0278E+01	3.7244E+01
M	5.0921E+02	9.7953E+02	1.1896E+03
A	1.6335E+01	2.5624E+01	2.6373E+01
S	2.4193E+00	2.5264E+00	2.6144E+00
Z	2.8415E+00	3.2294E+00	3.3018E+00
GAME	9.9494E-01	1.0271E+01	9.5944E-01
U	4.1637E+01	1.3047E+01	1.3677E+01

SPECIES	MOLE FRACTIONS
E-	4.1625E-01
HE	5.8977E-02
ME+	6.5244E-02
ME++	3.5616E-07
H	1.0314E-01
HO	3.6477E-01
H2	2.9071E-06
	4.8897E-01
	7.7742E-03
	9.7072E-02
	3.9119E-02
	7.6528E-03
	3.6249E-01
	3.6249E-01
	5.1351E-01
	3.6249E-01
	3.6249E-01
	3.6249E-01
	3.6249E-01

Table I. - Continued

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/SQ-M, US1 = 6.20E+04 M/SEC				P1 = 2.00E+03 N/SQ-M, US1 = 6.80E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	MWD	M	P	T	MWD	M
3.713E+03	1.314E+02	9.992E+00	6.600E+02	4.404E+03	1.675E+02	8.065E+00	8.019E+02
2.348E+04	2.546E+02	2.745E+01	1.145E+03	2.530E+04	2.932E+02	2.456E+01	1.359E+03
3.412E+04	3.473E+02	3.515E+01	1.570E+03	4.730E+04	4.445E+02	2.934E+01	1.899E+03
3.673E+02	3.515E+01	1.570E+03	3.604E+01	3.177E+01	4.254E+01	3.177E+01	4.254E+01
2.853E+01	2.853E+01	2.853E+01	2.853E+01	2.782E+00	2.782E+00	2.782E+00	2.782E+00
2.673E+00	2.673E+00	2.673E+00	2.673E+00	3.512E+00	3.512E+00	3.512E+00	3.512E+00
3.308E+00	3.308E+00	3.308E+00	3.308E+00	9.800E-01	9.800E-01	9.800E-01	9.800E-01
9.440E-01	9.440E-01	9.440E-01	9.440E-01	1.052E+00	1.052E+00	1.052E+00	1.052E+00
1.554E+01	1.554E+01	1.554E+01	1.554E+01	5.134E+01	5.134E+01	5.134E+01	5.134E+01
5.379E-01	5.379E-01	5.379E-01	5.379E-01	5.303E-01	5.303E-01	5.303E-01	5.303E-01
4.873E-04	4.873E-04	4.873E-04	4.873E-04	9.769E-04	9.769E-04	9.769E-04	9.769E-04
1.777E-02	1.777E-02	1.777E-02	1.777E-02	3.323E-02	3.323E-02	3.323E-02	3.323E-02
7.973E-02	7.973E-02	7.973E-02	7.973E-02	6.542E-02	6.542E-02	6.542E-02	6.542E-02
3.268E-03	3.268E-03	3.268E-03	3.268E-03	3.827E-03	3.827E-03	3.827E-03	3.827E-03
3.607E-01	3.607E-01	3.607E-01	3.607E-01	3.662E-01	3.662E-01	3.662E-01	3.662E-01
6.251E-09	6.251E-09	6.251E-09	6.251E-09	6.078E-09	6.078E-09	6.078E-09	6.078E-09
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.751E-01	5.130E-01	5.379E-01	E-	4.937E-01	5.303E-01	5.450E-01
HE	1.485E-02	2.779E-03	4.873E-04	HE	3.932E-03	9.769E-04	5.017E-05
ME+	9.444E-02	6.496E-02	1.777E-02	ME+	1.019E-01	3.323E-02	5.003E-03
ME++	3.113E-03	3.954E-02	7.973E-02	ME++	1.551E-03	6.542E-02	9.145E-02
N	3.484E-02	6.657E-03	3.268E-03	N	1.016E-02	3.827E-03	1.380E-03
M+	3.704E-01	3.770E-01	3.607E-01	M+	3.887E-01	3.662E-01	3.570E-01
M2	2.609E-07	2.042E-08	6.251E-09	M2	1.600E-08	6.078E-09	9.296E-10

P1 = 2.00E+03 N/50-H, US1 = 7.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6407E+03	2.5920E+04	4.8940E+04
T	1.8093E+02	3.8033E+02	4.8292E+02
RHO	7.8432E+00	2.3694E+01	2.7097E+01
M	8.4900E+02	1.4332E+03	2.8104E+03
A	2.4511E+01	3.3171E+01	4.4534E+01
S	2.7332E+00	2.8159E+00	2.9342E+00
Z	3.2010E+00	3.5409E+00	3.4330E+00
GAME	1.8243E+00	1.8025E+00	1.1304E+00
U	5.2643E+01	1.7447E+01	2.8630E+01

SPECIES	MOLE FRACTIONS	
E-	4.9710E-01	5.3491E-01
HE	2.8412E-03	6.2571E-04
HE+	9.9581E-02	2.4450E-02
HE++	4.2331E-03	7.3402E-02
H	7.1709E-03	3.1620E-03
H+	3.8902E-01	3.0333E-01
H2	7.7916E-09	3.9940E-09

P1 = 2.00E+03 N/50-H, US1 = 6.40E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9432E+03	2.4403E+04	4.4105E+04
T	1.4107E+02	2.6491E+02	3.7611E+02
RHO	8.7139E+00	2.6443E+01	3.3324E+01
M	7.1204E+02	1.2103E+03	1.6744E+03
A	2.1620E+01	2.9481E+01	3.8275E+01
S	2.6204E+00	2.7101E+00	2.8276E+00
Z	3.1944E+00	3.4316E+00	3.5901E+00
GAME	1.0332E+00	9.4899E-01	1.0823E+00
U	4.8827E+01	1.5965E+01	1.7284E+01

SPECIES	MOLE FRACTIONS	
E-	4.8351E-01	5.1917E-01
HE	9.3048E-03	2.8595E-03
HE+	1.0004E-01	5.3985E-02
HE++	1.1435E-04	4.5950E-02
H	2.3707E-02	5.5511E-03
H+	3.8122E-01	3.7320E-01
H2	1.1040E-07	1.3904E-08

P1 = 2.00E+03 N/50-H, US1 = 6.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1707E+03	2.4872E+04	4.6100E+04
T	1.5407E+02	2.7955E+02	4.0890E+02
RHO	8.3761E+00	2.5612E+01	3.1235E+01
M	7.5437E+02	1.2872E+03	1.7859E+03
A	2.2970E+01	3.0940E+01	4.0472E+01
S	2.6444E+00	2.7469E+00	2.8467E+00
Z	3.2324E+00	3.4737E+00	3.6157E+00
GAME	1.8995E+00	9.4095E-01	1.1079E+00
U	5.8092E+01	1.6369E+01	1.8744E+01

SPECIES	MOLE FRACTIONS	
E-	4.8950E-01	5.2501E-01
HE	5.8875E-03	1.4552E-03
HE+	1.0194E-01	4.3213E-02
HE++	4.4621E-04	5.8084E-02
H	1.5401E-02	4.6217E-03
H+	3.8475E-01	3.6962E-01
H2	4.2273E-08	9.2436E-09

Table I. - Continued

$$P_1 = 5 \text{ kN/m}^2$$

P1 = 5.66E+03 N/SQ-M, US1 = 4.03E+03 M/SEC				P1 = 5.00E+03 N/SQ-M, US1 = 7.66E+03 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	WILE FRACTIONS			STANDING SHOCK	WILE FRACTIONS	
P	1.3967E+01	5.2205E-34	7.2692E+01	P	4.03E+01	1.5631E+02	2.9731E+02
T	3.5541E+00	3.5030E-01	6.4740E+00	T	8.4362E+00	1.1141E+01	1.2973E+01
RHC	3.9293E+00	1.2228E-62	6.4257E+00	RHC	9.2231E+00	1.3634E+01	2.0725E+01
M	3.6325E+00	0.	6.9053E+00	M	9.3642E+00	1.4114E+01	1.8742E+01
A	1.8736E+00	6.2622E-09	2.5923E+00	A	2.7519E+00	1.1744E+00	3.7968E+00
S	1.0726E+00	8.1343E-20	1.0744E+00	S	1.1719E+00	1.1841E+00	1.2124E+00
Z	1.0304E+00	0.	1.0303E+00	Z	1.0304E+00	1.0251E+00	1.0685E+00
GAME	9.8771E-01	0.	9.7662E-01	GAME	8.775E-01	8.4214E-01	8.3742E-01
U	2.5773E+00	6.5066E-01	1.5703E+00	U	4.8744E+00	1.8591E+00	1.6452E+00

P1 = 5.00E+03 N/SQ-M, US1 = 7.66E+03 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	WILE FRACTIONS	
E-	7.4202E-15	3.5189E-11	1.2946E-09
ME	3.4849E-01	3.4310E-01	3.2756E-01
ME+	5.0125E-34	8.3125E-26	2.5657E-22
ME++	0.	0.	3.8346E-40
M	7.4930E-03	5.5574E-02	1.2947E-01
M+	7.4202E-15	3.5189E-11	1.2946E-09
M2	6.4392E-01	6.332E-01	5.4422E-01

P1 = 5.00E+03 M/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2025E+01	5.6144E+01	1.2743E+02
T	4.9879E+00	6.6773E+00	9.1386E+00
RHO	4.4154E+00	8.4363E+00	1.3876E+01
M	5.1726E+00	7.0797E+00	1.0267E+01
A	2.2001E+00	2.5171E+00	2.8607E+00
S	1.1074E+00	1.1116E+00	1.1340E+00
Z	1.0000E+00	1.0002E+00	1.0053E+00
GAME	9.7042E-01	9.4867E-01	8.9077E-01
U	3.3340E+00	1.7501E+00	1.5589E+00

SPECIES	MOLE FRACTIONS
E-	1.5696E-30
HE	3.5000E-01
HE+	1.2101E-50
HE++	0.
H	6.6447E-04
H+	8.1343E-20
H2	6.4959E-01

P1 = 5.00E+03 M/SQ-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1992E+01	9.6237E+01	1.9638E+02
T	6.6566E+00	9.0715E+00	1.1239E+01
RHO	4.8048E+00	1.0549E+01	1.7000E+01
M	7.0590E+00	1.6204E+01	1.4160E+01
A	2.5113E+00	2.8460E+00	3.1241E+00
S	1.1435E+00	1.1477E+00	1.1728E+00
Z	1.0000E+00	1.0057E+00	1.0279E+00
GAME	9.4724E-01	9.4732E-01	9.4402E-01
U	4.6954E+00	1.8644E+00	1.6131E+00

SPECIES	MOLE FRACTIONS
E-	5.4312E-10
HE	3.4891E-01
HE+	1.4676E-62
HE++	0.
H	5.1077E-04
H+	6.2444E-19
H2	6.4950E-01

P1 = 5.00E+03 M/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8594E+01	2.4454E+02	4.1735E+02
T	9.6233E+00	1.4499E+01	1.4237E+01
RHO	5.8015E+00	1.7670E+01	2.5357E+01
M	1.1922E+01	1.4810E+01	2.4225E+01
A	2.9249E+00	1.3874E+00	1.7558E+00
S	1.2220E+00	1.2220E+00	1.2558E+00
Z	1.0173E+00	1.0717E+00	1.0746E+00
GAME	9.4976E-01	9.3531E-01	9.3356E-01
U	5.7571E+00	1.8705E+00	1.5643E+00

SPECIES	MOLE FRACTIONS
E-	2.1145E-12
HE	3.4445E-01
HE+	3.8320E-20
HE++	0.
H	3.2075E-02
H+	2.1140E-12
H2	6.2167E-01

P1 = 5.00E+03 M/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5504E+01	2.0354E+02	5.9572E+02
T	1.1155E+01	1.4672E+01	1.6330E+01
RHO	6.4964E+00	2.2346E+01	3.0536E+01
M	1.4517E+01	2.4253E+01	3.0635E+01
A	3.1031E+00	3.0965E+00	4.3598E+00
S	1.2364E+00	1.2763E+00	1.3039E+00
Z	1.0421E+00	1.1275E+00	1.1577E+00
GAME	9.2927E-01	9.3235E-01	8.4627E-01
U	6.5635E+00	1.7577E+00	1.7757E+00

SPECIES	MOLE FRACTIONS
E-	6.2703E-11
HE	3.3350E-01
HE+	1.2155E-25
HE++	0.
H	3.0674E-02
H+	4.2703E-11
H2	5.3148E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued

$$P_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/SQ-M, US1= 1.00E+04 M/SEC				P1 = 5.00E+03 N/SQ-M, US1= 1.30E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	6.3139E-10	1.0713E-07	6.9496E-07	E-	5.2508E-04	7.1280E-06	9.7643E-05
HE	3.2524E-01	2.9291E-01	2.7404E-01	HE	2.0713E-01	2.6732E-01	2.2335E-01
HE+	1.0331E-23	6.0697E-19	5.2541E-16	HE+	3.4511E-19	2.1017E-19	6.7064E-11
HE++	8.4675E-87	3.8149E-66	2.5905E-59	HE++	4.0348E-71	6.3301E-49	9.7127E-40
H	1.4146E-01	3.2623E-01	4.3302E-01	H	3.5913E-01	3.6595E-01	7.1230E-01
H+	6.3139E-10	1.0713E-07	6.9496E-07	H+	5.2508E-04	7.1280E-06	9.7643E-05
H2	5.3329E-01	3.8016E-01	2.9210E-01	H2	3.4511E-01	1.4709E-01	6.2457E-02
P	9.4613E+01	5.2023E+02	8.2333E+02	P	1.0621E+02	1.1456E+02	1.9344E+03
T	1.2210E+01	1.6144E+01	1.8173E+01	T	1.4997E+01	2.1752E+01	2.6732E+01
RHD	7.2008E+00	2.6969E+01	3.5464E+01	RHD	9.0901E+00	3.6742E+01	4.3557E+01
M	1.8253E+01	3.0371E+01	3.7944E+01	M	3.0368E+01	5.2444E+01	6.6088E+01
A	3.2849E+00	4.0305E+00	4.4671E+00	A	3.8961E+00	5.3223E+00	6.3426E+00
S	1.2886E+00	1.3566E+00	1.3455E+00	S	1.3750E+00	1.4422E+00	1.4634E+00
Z	1.0761E+00	1.1949E+00	1.2770E+00	Z	1.2194E+00	1.4394E+00	1.5832E+00
GAME	9.2122E-01	8.4215E-01	9.5944E-01	GAME	8.2071E-01	9.0522E-01	9.8426E-01
U	7.4224E+00	1.9804E+00	1.8911E+00	U	5.9591E+00	2.4146E+00	2.5897E+00

P1 = 5.00E+03 N/SQ-M, US1= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1382E+02	7.051E+02	1.0907E+03
T	1.3170E+01	1.7813E+01	2.0269E+01
RHO	7.8690E+00	3.1154E+01	3.9604E+01
M	2.1942E+01	3.7130E+01	4.6191E+01
A	3.4738E+00	4.4335E+00	4.9489E+00
S	1.3039E+00	1.3513E+00	1.3978E+00
Z	1.1175E+00	1.2711E+00	1.3679E+00
GAME	8.2081E-01	9.5637E-01	9.8337E-01
U	8.2761E+00	2.0896E+00	2.3477E+00

SPECIES	MOLE FRACTIONS	
E-	3.6382E-09	5.4305E-07
HE	3.1319E-01	2.7535E-01
ME+	8.4630E-22	2.6264E-16
ME++	3.2389E-81	5.1974E-63
H	2.1034E-01	4.2656E-01
M+	3.6382E-09	5.4305E-07
M2	4.7647E-01	2.9805E-01

P1 = 5.00E+03 N/SQ-M, US1= 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3905E+02	9.1715E+02	1.4267E+03
T	1.4394E+01	1.9634E+01	2.2931E+01
RHO	8.4710E+00	3.4513E+01	4.2571E+01
M	2.5979E+01	4.4494E+01	5.5474E+01
A	3.6775E+00	4.8258E+00	5.5541E+00
S	1.3407E+00	1.3969E+00	1.4492E+00
Z	1.1654E+00	1.2535E+00	1.4634E+00
GAME	9.2462E-01	9.7433E-01	9.7049E-01
U	9.1217E+00	2.2674E+00	2.2658E+00

SPECIES	MOLE FRACTIONS	
E-	1.5237E-08	2.3211E-06
HE	3.8034E-01	2.5958E-01
ME+	2.3103E-23	7.5159E-15
ME++	1.1697E-74	8.8257E-55
H	2.8379E-01	5.2237E-01
M+	1.5237E-08	2.3211E-06
M2	4.1587E-01	2.1934E-01

P1 = 5.00E+03 N/SQ-M, US1= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9143E+02	1.3918E+03	2.2525E+03
T	1.5922E+01	2.4629E+01	3.3032E+01
RHO	9.4122E+00	3.7511E+01	4.2230E+01
M	3.5091E+01	6.6905E+01	7.8420E+01
A	4.1280E+00	5.9375E+00	7.5138E+00
S	1.4144E+00	1.4872E+00	1.5430E+00
Z	1.2773E+00	1.5146E+00	1.6148E+00
GAME	8.3790E-01	9.4950E-01	1.0584E+00
U	1.0785E+01	2.7045E+00	3.0897E+00

SPECIES	MOLE FRACTIONS	
E-	1.5981E-07	3.9725E-05
HE	2.7401E-01	2.3044E-01
ME+	4.4051E-19	6.4919E-12
ME++	8.9283E-67	1.1427E-43
H	4.3425E-01	6.8311E-01
M+	1.5961E-07	3.8725E-05
M2	2.9174E-01	9.6379E-02

P1 = 5.00E+03 N/SQ-M, US1= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2345E+02	1.6266E+03	2.7444E+03
T	1.6708E+01	2.8107E+01	4.1395E+01
RHO	9.7297E+00	3.6550E+01	4.0341E+01
M	4.0163E+01	6.5773E+01	9.2262E+01
A	4.3455E+00	6.7150E+00	8.6323E+00
S	1.4582E+00	1.5293E+00	1.5915E+00
Z	1.3430E+00	1.5931E+00	1.6434E+00
GAME	8.4880E-01	1.0135E+00	1.3452E+00
U	1.1594E+01	3.0556E+00	3.6929E+00

SPECIES	MOLE FRACTIONS	
E-	4.5251E-07	1.7972E-04
HE	2.6119E-01	2.2119E-01
ME+	4.0574E-17	2.0464E-10
ME++	7.2951E-63	9.6927E-39
H	5.3744E-01	7.6645E-01
M+	4.5251E-07	1.7972E-04
M2	2.3135E-01	9.2613E-02

Table I. - Continued

$$p_1 = 5 \text{ kW/m}^2$$

P1 = 5.00E+03 N/50-M, US1 = 1.60E+04 M/SEC				P1 = 5.00E+03 N/50-M, US1 = 1.90E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	2.5120E+02	1.8366E+03	3.2303E+03	P	3.5210E+02	2.3227E+03	4.3559E+03
T	1.4005E+01	5.3344E+01	4.9196E+01	T	2.3270E+01	4.9749E+01	6.5940E+01
RHO	5.9281E+00	3.4273E+01	3.9433E+01	RHO	5.5166E+00	2.7870E+01	3.7610E+01
H	4.5579E+01	7.8947	1.0646E+02	H	6.3635E+01	1.0975E+02	1.4911E+02
A	4.6761E+00	7.55	9.0282E+00	A	6.0293E+00	9.5249E+00	1.3364E+01
S	1.4893E+00	1.50	1.6279E+00	S	1.6183E+00	1.6641E+00	1.7203E+00
Z	1.4056E+00	1.6214E+00	1.6659E+00	Z	1.5839E+00	1.6747E+00	1.7507E+00
GAPE	8.6334E+00	1.2534E+00	5.9476E+01	GAPE	9.8228E+01	9.7756E+01	9.2762E+01
U	1.2402E+01	3.5918E+00	4.1637E+00	U	1.4655E+01	5.0005E+00	4.9618E+00
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	1.2547E-06	3.3993E-04	1.4376E-02	E-	4.4449E-05	1.7839E-02	6.3479E-02
HE	2.4920E-01	2.1594E-01	2.1009E-01	HE	2.2014E-01	2.0877E-01	1.9845E-01
HE+	5.2668E-16	1.1819E-09	1.3662E-04	HE+	2.7878E-12	1.9296E-05	5.6011E-04
H	5.2378E-09	1.1731E-01	1.3236E-03	H	2.6817E-05	3.3967E-02	9.7180E-01
H+	5.7716E-01	7.5355E-01	7.5721E-01	H+	7.4195E-01	7.5227E-01	6.7293E-01
H2	1.2547E-06	3.3993E-04	1.4376E-02	H2	4.4449E-05	1.7839E-02	6.3479E-02
	1.7184E-01	1.8466E-02	4.5402E-03		3.7828E-02	3.0759E-03	1.6004E-03

P1 = 5.00E+03 M/SO-M, US1 = 1.73E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8369E+02	2.0259E+03	3.6924E+03
T	1.9297E+01	3.8860E+01	5.5699E+01
RNC	9.9853E+03	3.1766E+01	3.9171E+01
M	5.1330E+01	8.8436E+01	1.2065E+02
A	5.0179E+03	9.2323E+00	0.5146E+02
S	1.5399E+00	1.6021E+00	1.6927E+00
Z	1.4723E+03	1.6411E+02	1.6927E+00
GAME	8.8628E+01	1.0749E+00	9.6036E+01
U	1.3184E+01	4.1419E+00	4.5047E+00

SPECIES	MOLE FRACTIONS
E-	3.5874E-06
ME	2.3773E-01
HE+	6.2422E-15
HE++	1.0779E-05
H	6.4154E-01
M+	3.5874E-06
M2	1.2072E-01

P1 = 5.00E+03 M/SO-M, US1 = 1.73E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8369E+02	2.0259E+03	3.6924E+03
T	1.9297E+01	3.8860E+01	5.5699E+01
RNC	9.9853E+03	3.1766E+01	3.9171E+01
M	5.1330E+01	8.8436E+01	1.2065E+02
A	5.0179E+03	9.2323E+00	0.5146E+02
S	1.5399E+00	1.6021E+00	1.6927E+00
Z	1.4723E+03	1.6411E+02	1.6927E+00
GAME	8.8628E+01	1.0749E+00	9.6036E+01
U	1.3184E+01	4.1419E+00	4.5047E+00

SPECIES	MOLE FRACTIONS
E-	3.5874E-06
ME	2.3773E-01
HE+	6.2422E-15
HE++	1.0779E-05
H	6.4154E-01
M+	3.5874E-06
M2	1.2072E-01

P1 = 5.00E+03 M/SO-M, US1 = 1.93E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1755E+02	2.1921E+03	4.0933E+03
T	2.0951E+01	4.4520E+01	6.1187E+01
RNC	9.3656E+03	2.9727E+01	3.8737E+01
M	5.7412E+01	9.8370E+01	1.3453E+02
A	5.4431E+03	4.6532E+00	9.9596E+03
S	1.5795E+00	1.6337E+00	1.6937E+00
Z	1.5561E+03	1.6584E+00	1.7241E+00
GAME	3.2233E+01	1.0154E+00	9.4013E+01
U	1.3641E+01	4.6273E+00	4.7601E+00

SPECIES	MOLE FRACTIONS
E-	1.1433E-05
ME	2.2755E-01
HE+	1.0110E-13
HE++	1.6170E-05
H	6.4764E-01
M+	1.0143E-05
M2	7.4412E-02

P1 = 5.00E+03 M/SO-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8721E+02	2.4033E+03	4.4754E+03
T	2.6562E+01	5.4292E+01	6.9744E+01
RNC	8.5391E+03	2.6087E+01	3.5762E+01
M	7.7487E+01	1.1949E+02	1.6330E+02
A	0.7571E+00	7.3091E+00	1.2728E-01
S	1.6537E+00	1.6946E+00	1.7508E+00
Z	1.6240E+00	1.6972E+00	1.7953E+00
GAME	1.0544E+00	9.0082E-01	9.1918E-01
U	1.5311E+01	5.2435E+00	5.1324E+00

SPECIES	MOLE FRACTIONS
E-	2.1311E-04
ME	2.0516E-01
HE+	1.2014E-13
HE++	3.0400E-05
H	7.6927E-01
M+	2.1311E-04
M2	1.5829E-02

P1 = 5.00E+03 M/SO-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2250E+02	2.4507E+03	4.5143E+03
T	3.1320E+01	5.9273E+01	7.3145E+01
RNC	8.3395E+00	2.4497E+01	3.3665E+01
M	7.7451E+01	1.3258E+02	1.7680E+02
A	7.4384E+03	9.6302E+00	1.1005E+01
S	1.6851E+00	1.7247E+00	1.7811E+00
Z	1.6430E+00	1.7230E+00	1.8332E+00
GAME	1.0733E+00	3.3297E-01	9.1335E-01
U	1.5921E+01	5.5095E+00	5.2126E+00

SPECIES	MOLE FRACTIONS
E-	3.7825E-04
ME	2.1330E-01
HE+	5.4681E-09
HE++	2.4421E-03
H	7.7823E-01
M+	7.7823E-04
M2	6.5144E-03

Table I. - Continued

$$P_1 = 5 \text{ KN/m}^2$$

P1 = 5.00E+03 N/5J-M, US1 = 2.20E+04 M/SEC					P1 = 5.00E+03 N/50-M, US1 = 2.50E+04 M/SEC				
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	
P	4.598E+02	2.5453E+03	4.5548E+03	P		5.8742E+02	3.113E+03	5.4169E+03	
T	3.5625E+01	6.1974E+01	7.6395E+01	T		4.7512E+01	7.2568E+01	8.6617E+01	
RHO	7.8222E+00	2.3421E+01	3.2122E+01	RHO		7.3056E+00	2.3035E+01	3.1152E+01	
H	8.4753E+01	1.4230E+02	1.9117E+02	H		1.3885E+02	1.4258E+02	2.4094E+02	
A	7.8532E+03	1.3006E+01	1.1432E+01	A		8.6805E+03	1.1058E+01	1.2504E+01	
S	1.7134E+03	1.7523E+03	1.8133E+03	S		1.7857E+03	1.8795E+03	1.8919E+03	
Z	1.6533E+03	1.7530E+03	1.8732E+03	Z		1.6923E+03	1.8623E+03	2.0075E+03	
GAME	1.0490E+03	9.2122E+01	9.0845E+01	GAME		9.3711E+01	9.0475E+01	8.9923E+01	
U	1.6537E+01	5.5236E+03	5.3169E+03	U		1.8590E+01	5.8965E+03	5.6937E+03	
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS			-----	
E-	3.3374E-03	6.0268E-02	1.1959E-01	E-		2.5935E-02	1.1467E-01	1.7854E-01	
HE	2.1208E-01	1.9974E-01	1.8437E-01	HE		2.0690E-01	1.9596E-01	1.8592E-01	
HE+	1.1121E-07	5.5329E-04	2.7730E-03	HE+		1.7839E-03	1.3764E-03	8.4253E-03	
HE++	1.2666E-29	1.2930E-15	2.8930E-12	HE++		1.0974E-20	6.5537E-13	1.7717E-10	
H	7.7808E-01	6.7902E-01	5.7516E-01	H		7.4347E-01	5.8604E-01	4.7656E-01	
H+	3.3372E-03	5.9914E-02	1.1721E-01	H+		2.5917E-02	1.1269E-01	1.7011E-01	
H2	3.1583E-03	1.2087E-03	8.1006E-04	H2		9.1200E-04	6.5874E-04	4.6243E-04	

P1 = 5.00E+03 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3935E+02	3.3935E+03	5.8459E+03
T	5.0717E+01	7.6043E+01	9.0174E+01
RHO	7.3109E+00	2.3417E+01	3.1531E+01
M	1.1770E+02	1.9770E+02	2.5976E+02
A	8.9374E+00	1.1428E+01	1.2895E+01
S	1.8071E+00	1.8540E+00	1.9182E+00
Z	1.7135E+00	1.9037E+00	2.0560E+00
GAME	9.1914E-01	9.0210E-01	8.9483E-01
U	1.9345E+01	9.7343E+00	5.1323E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.7782E-02	1.3383E-01	1.9788E-01
HE	2.0421E-01	1.8076E-01	1.5878E-01
HE+	4.6615E-05	3.0899E-03	1.1448E-02
HE++	3.5189E-19	3.4111E-12	5.8049E-10
H	7.1931E-01	5.5102E-01	4.4537E-01
H+	3.7736E-02	1.3074E-01	1.8643E-01
H2	7.1153E-04	5.5573E-04	3.9189E-04

P1 = 5.03E+03 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.9575E+02	3.6998E+03	6.3313E+03
T	5.3660E+01	7.9443E+01	9.3766E+01
RHO	7.3526E+00	2.3929E+01	3.2663E+01
M	1.2687E+02	2.1358E+02	2.7957E+02
A	9.1974E+00	1.1796E+01	1.3292E+01
S	1.8285E+00	1.8778E+00	1.9442E+00
Z	1.7373E+00	1.9462E+00	2.1059E+00
GAME	9.0721E-01	8.9977E-01	8.9474E-01
U	2.0157E+01	6.1833E+00	5.9747E+00

SPECIES ----- MOLE FRACTIONS -----

E-	5.0911E-02	1.5267E-01	2.1683E-01
HE	2.0153E-01	1.7327E-01	1.5113E-01
HE+	1.0137E-04	4.5783E-03	1.5078E-02
HE++	5.7375E-19	1.4303E-11	1.7371E-09
H	6.5617E-01	5.1833E-01	4.1495E-01
H+	5.0819E-02	1.4937E-01	2.0172E-01
H2	5.7648E-04	4.7446E-04	3.3408E-04

P1 = 5.03E+03 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5937E+02	2.6834E+03	4.7775E+03
T	4.0311E+01	6.5515E+01	7.9713E+01
RHO	7.1187E+00	2.2939E+01	3.1286E+01
M	9.2413E+01	1.5494E+02	2.0662E+02
A	8.1629E+00	1.2344E+01	1.1755E+01
S	1.7394E+00	1.7791E+00	1.8383E+00
Z	1.6600E+00	1.7460E+00	1.9158E+00
GAME	1.0224E+00	9.1344E-01	9.0485E-01
U	1.7187E+01	5.0399E+00	5.4352E+00

SPECIES ----- MOLE FRACTIONS -----

E-	8.2444E-03	7.7591E-02	1.3940E-01
HE	4.0107E-01	1.9551E-01	1.7854E-01
HE+	1.0741E-04	6.7997E-04	4.1517E-03
HE++	3.7444E-14	1.3622E-11	1.2545E-11
H	7.2700E-01	6.4995E-01	5.4230E-01
H+	8.2444E-03	7.0913E-02	1.3525E-01
H2	1.9442E-03	9.6417E-04	6.6207E-04

P1 = 5.03E+03 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.4213E+02	2.8747E+03	5.0553E+03
T	4.3555E+01	6.7075E+01	9.3114E+01
RHO	7.3627E+00	4.2824E+01	3.1627E+01
M	1.0340E+02	1.4377E+02	2.2319E+02
A	8.4455E+00	1.0054E+01	1.2123E+01
S	1.7627E+00	1.9471E+00	1.9654E+00
Z	1.6740E+00	1.8233E+00	1.9635E+00
GAME	9.0411E-01	9.0828E-01	9.0187E-01
U	1.7870E+01	5.7645E+00	5.5599E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.5946E-02	6.5939E-02	1.5995E-01
HE	4.0311E-01	1.9376E-01	1.7255E-01
HE+	5.2351E-06	1.1673E-03	5.0256E-03
HE++	1.3217E-14	1.0034E-11	4.3230E-11
H	7.5744E-01	6.5174E-01	5.3904E-01
H+	1.5600E-02	5.4600E-02	1.5244E-01
H2	1.2367E-03	7.4013E-04	5.6323E-04

Table I. - Continued

$$P_1 = 5 \text{ kW/m}^2$$

P1 = 5.00E+03 N/50-M, US1 = 2.80E+04 M/SEC					P1 = 5.00E+03 N/50-M, US1 = 3.20E+04 M/SEC				
SPECIES	MOLE FRACTIONS				SPECIES	MOLE FRACTIONS			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	
E-	7.3843E+02	4.0391E+03	6.8642E+03	P	E-	9.7099E+02	5.6474E+03	9.3944E+03	
HE	5.6434E+01	6.2844E+01	9.7341E+01	T	HE	6.6152E+01	9.6236E+01	1.1223E+02	
HE+	7.4218E+00	2.4492E+01	3.2685E+01	RHO	HE+	7.7763E+00	2.6337E+01	3.5380E+01	
HE++	1.3642E+02	2.3023E+02	3.0030E+02	H	H	1.7816E+02	3.0357E+02	3.9195E+02	
H	9.4558E+00	1.2169E+01	1.3695E+01	A	A	1.3523E+01	1.3672E+01	1.5411E+01	
H+	1.8497E+00	1.9317E+00	1.9702E+00	S	S	1.9333E+00	1.9576E+00	2.2742E+00	
H2	1.7643E+00	1.9906E+00	2.1566E+00	Z	Z	1.8870E+00	2.1785E+00	2.3666E+00	
	8.9943E+01	8.9801E+01	8.9309E+01	GAPE	GAPE	8.8681E+01	9.9154E+01	8.9445E+01	
	2.0882E+01	6.3285E+00	6.1292E+00	U	U	2.4034E+01	6.9347E+00	6.7664E+00	
E-	6.5087E-02	1.7132E-01	2.3519E-01			1.2615E-01	2.4283E-01	3.0295E-01	
HE	1.9422E-01	1.6929E-01	1.4301E-01			1.8415E-01	1.4123E-01	1.3774E-01	
HE+	1.9323E-04	6.5325E-03	1.9281E-02			1.2706E-03	1.9425E-02	4.0152E-02	
HE++	6.3033E-17	5.6734E-11	4.7740E-09			5.8402E-14	4.2510E-09	1.3949E-07	
H	6.7113E-01	4.8724E-01	3.8633E-01			5.6325E-01	3.7288E-01	2.8620E-01	
H+	6.4992E-02	1.6499E-01	2.1591E-01			1.2498E-01	2.2341E-01	2.6280E-01	
H2	4.7835E-04	4.0643E-04	2.8506E-04			2.5539E-04	2.2561E-04	1.5463E-04	

PI = 5.00E+03 N/50-M, USL = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.397E+03	6.592E+03	1.709E+04
T	7.000E+01	1.628E+02	1.250E+02
RHO	7.957E+00	7.411E+01	7.567E+01
M	2.311E+02	2.441E+02	4.431E+02
A	1.130E+01	1.445E+01	1.634E+01
S	1.574E+00	2.045E+00	2.126E+00
Z	1.957E+00	2.275E+00	2.471E+00
GAME	8.652E-01	9.706E-01	9.024E-01
U	2.562E+01	7.247E+00	7.123E+00

SPECIES	MULE FRACTIONS
E-	1.57E-01
HE	1.76E-01
HE+	2.53E-01
ME+	7.13E-01
M	5.39E-01
H+	1.367E-01
H2	1.927E-04
	2.75E-01
	1.25E-01
	2.8E-02
	2.2E-02
	3.2E-02
	2.4E-01
	2.46E-01
	1.6E-04

PI = 5.00E+03 N/50-M, USL = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.236E+03	7.531E+03	1.248E+04
T	7.48E+01	1.60E+02	1.247E+02
RHO	9.12E+00	7.22E+01	3.74E+01
M	2.25E+02	3.97E+02	4.9E+02
A	1.15E+01	1.52E+01	1.74E+01
S	2.01E+00	2.33E+00	2.17E+00
Z	2.031E+00	2.37E+00	2.58E+00
GAME	8.64E-01	9.27E-01	9.15E-01
U	2.721E+01	7.87E+00	7.41E+00

SPECIES	MULE FRACTIONS
E-	1.37E-01
HE	1.67E-01
HE+	4.45E-01
ME+	6.00E-01
M	4.60E-01
H+	1.42E-01
H2	1.6E-04
	1.50E-01
	1.50E-01
	1.50E-01
	1.50E-01
	1.50E-01
	1.50E-01
	1.50E-01
	1.50E-01

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

PI = 5.00E+03 N/50-M, USL = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.937E+02	4.425E+03	7.442E+03
T	5.899E+01	9.625E+01	1.015E+02
RHO	7.502E+00	2.507E+01	3.330E+01
M	1.463E+02	2.473E+02	3.220E+02
A	9.723E+00	1.254E+01	1.610E+01
S	1.870E+00	1.926E+00	1.996E+00
Z	1.792E+00	2.269E+00	2.209E+00
GAME	8.941E-01	8.961E-01	8.923E-01
U	2.166E+01	6.475E+00	6.291E+00

SPECIES	MULE FRACTIONS
E-	7.987E-02
HE	1.949E-01
HE+	3.415E-04
ME+	4.814E-16
M	6.445E-01
H+	7.929E-02
H2	4.334E-04
	1.903E-01
	1.628E-01
	9.017E-03
	1.955E-13
	3.590E-01
	7.291E-01
	2.449E-04

PI = 5.00E+03 N/50-M, USL = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.504E+02	4.796E+03	9.055E+03
T	6.14E+01	9.96E+01	1.746E+02
RHO	7.591E+00	2.562E+01	3.404E+01
M	1.565E+02	2.655E+02	3.443E+02
A	9.983E+00	1.252E+01	1.652E+01
S	1.991E+00	1.949E+00	2.022E+00
Z	1.822E+00	2.035E+00	2.204E+00
GAME	8.936E-01	8.935E-01	8.914E-01
U	2.245E+01	6.635E+00	6.437E+00

SPECIES	MULE FRACTIONS
E-	9.504E-02
HE	1.914E-01
HE+	5.57E-04
ME+	2.951E-15
M	6.14E-01
H+	9.452E-02
H2	3.441E-04
	2.335E-01
	1.360E-01
	1.139E-02
	5.92E-13
	4.273E-01
	1.967E-01
	3.509E-04

Table I. - Continued

$$P_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/SQ-M, US1 = 3.90E+04 M/SEC				P1 = 5.00E+03 N/SQ-M, US1 = 4.40E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.3012E+03	8.6734E+03	1.4229E+04	P	1.9624E+03	1.2206E+04	2.3458E+04
T	7.9099E+01	1.1641E+02	1.3939E+02	T	9.1461E+01	1.4322E+02	1.9074E+02
RHO	8.2845E+00	3.0122E+01	3.9085E+01	RHO	9.6751E+00	3.1359E+01	3.7665E+01
H	2.5133E+02	4.3291E+02	5.5693E+02	H	3.3750E+02	5.6370E+02	7.6425E+02
A	1.2139E+01	1.6084E+01	1.8698E+01	A	1.3754E+01	1.9106E+01	2.3671E+01
S	2.0587E+00	2.1419E+00	2.2325E+00	S	2.1650E+00	2.2849E+00	2.3937E+00
Z	2.1077E+00	2.4734E+00	2.6997E+00	Z	2.3474E+00	2.7723E+00	3.0212E+00
GAME	9.8372E-01	9.9866E-01	9.9579E-01	GAME	8.8161E-01	9.4448E-01	1.0261E+00
U	2.6798E+01	7.9131E+00	7.9973E+00	U	3.3551E+01	9.2989E+00	1.0106E+01
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	2.1727E-01	3.3300E-01	3.9997E-01	E-	2.9701E-01	4.0766E-01	4.9347E-01
HE	1.5873E-01	9.2333E-02	5.7838E-02	HE	1.2621E-01	4.6455E-02	2.6175E-02
ME+	7.3284E-03	4.9172E-02	7.1794E-02	ME+	2.2906E-02	7.6157E-02	8.6702E-02
ME++	3.9300E-11	3.6416E-07	7.5443E-06	ME++	3.4744E-05	1.1315E-05	3.4577E-04
H	4.0662E-01	2.4159E-01	1.6438E-01	H	2.7130E-01	1.4313E-01	6.6471E-02
M+	2.0994E-01	2.8382E-01	3.1706E-01	M+	2.7449E-01	3.2162E-01	3.6340E-01
M2	1.1010E-04	9.3952E-05	5.6139E-05	M2	4.7139E-05	3.9474E-05	7.4404E-04

P1 = 5.30E+03 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.339E+03	1.3434E+04	2.2878E+04
T	9.559E+01	1.5037E+02	2.0105E+02
RMD	8.7781E+03	3.1213E+01	3.6674E+01
M	3.6841E+02	6.3757E+02	8.4451E+02
A	1.4314E+01	2.6429E+01	7.5657E+01
S	2.2286E+03	2.3312E+03	2.4404E+03
Z	2.4299E+03	2.8683E+03	3.1028E+03
GAME	9.82C9E-01	9.6957E-01	1.0389E+03
U	3.5133E+01	9.8782E+03	1.1049E+01

SPECIES	MOLE FRACTIONS
E-	3.2099E-01
HE	1.138CE-01
HE+	3.0241E-02
HE++	1.1733E-08
M	2.4418E-01
M+	2.6375E-01
M2	3.5511E-05

P1 = 5.03E+03 N/SQ-M, US1 = 4.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2233E+03	1.4663E+04	2.9419E+04
T	9.5813E+01	1.6139E+02	2.2315E+02
RMD	9.4659E+03	3.3729E+01	3.5959E+01
M	4.0117E+02	6.6274E+02	9.2837E+02
A	4.499E+01	2.1914E+01	2.8857E+01
S	2.2715E+03	2.3703E+03	2.4477E+03
Z	2.5123E+03	2.9543E+03	3.1677E+03
GAME	9.8403E-01	9.6277E-01	1.0204E+03
U	3.8730E+01	1.0394E+01	1.1947E+01

SPECIES	MOLE FRACTIONS
E-	3.6548E-01
HE	1.0079E-01
HE+	3.6357E-02
HE++	3.6357E-02
M	2.1741E-01
M+	3.4751E-01
M2	2.6433E-05

P1 = 5.00E+03 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5339E+03	9.4039E+03	1.6134E+04
T	8.3244E+01	1.2377E+02	1.4081E+02
RMD	8.4281E+03	3.0777E+01	3.4205E+01
M	2.7851E+02	4.6277E+02	6.2058E+02
A	1.2676E+01	1.7619E+01	2.0145E+01
S	2.1036E+03	2.1906E+03	2.2458E+03
Z	2.1864E+03	2.3747E+03	2.6131E+03
GAME	8.820E-01	9.7913E-01	9.8294E-01
U	3.0385E+01	9.3166E+03	9.3755E+03

SPECIES	MOLE FRACTIONS
E-	2.4542E-01
HE	1.4879E-01
HE+	1.1254E-02
HE++	2.0609E-10
M	3.6224E-01
M+	2.3413E-01
M2	9.3292E-05

P1 = 5.00E+03 N/SQ-M, US1 = 4.23E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6443E+03	1.0002E+04	1.8236E+04
T	9.7327E+01	1.3153E+02	1.6366E+02
RMD	8.5581E+03	3.1259E+01	3.8066E+01
M	3.0730E+02	5.3103E+02	6.8991E+02
A	1.3215E+01	1.9331E+01	2.1818E+01
S	2.1433E+03	2.2374E+03	2.3876E+03
Z	2.2565E+03	2.6741E+03	2.9224E+03
GAME	8.820E-01	9.8432E-01	9.9329E-01
U	3.1964E+01	9.7474E+03	9.7737E+03

SPECIES	MOLE FRACTIONS
E-	2.7512E-01
HE	1.3746E-01
HE+	1.6649E-02
HE++	9.3916E-10
M	3.1774E-01
M+	2.5337E-01
M2	6.2891E-05

Table I. - Continued

$$P_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/50-M, US1 = 5.60E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.416E+03	1.546E+04	2.799E+04
T	1.641E+02	1.743E+02	2.642E+02
RHO	9.53E+00	2.977E+01	3.559E+01
M	4.35E+02	1.514E+02	1.315E+03
A	1.56E+01	2.326E+01	2.751E+01
S	2.31E+01	7.411E+01	2.531E+00
Z	2.52E+00	3.034E+00	3.222E+00
GAME	9.47E+01	1.623E+02	9.770E+01
U	3.82E+01	1.137E+01	1.245E+01
P1 = 5.00E+03 N/50-M, US1 = 5.60E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.030E+03	1.920E+04	3.544E+04
T	1.189E+02	2.209E+02	2.991E+02
RHO	8.96E+00	2.717E+01	3.508E+01
M	5.45E+02	9.361E+02	1.230E+03
A	1.760E+01	2.677E+01	3.129E+01
S	2.442E+01	2.537E+00	2.647E+00
Z	2.941E+00	3.1981E+00	3.377E+00
GAME	9.171E+01	1.014E+00	9.690E+01
U	4.288E+01	1.414E+01	1.472E+01
SPECIES ----- MOLE FRACTIONS -----			
E-	4.194E-01	4.940E-01	5.114E-01
HE	4.950E-02	1.211E-02	5.340E-03
ME+	7.364E-02	9.194E-02	5.790E-02
ME++	1.912E-06	5.375E-03	4.036E-02
H	1.119E-01	2.510E-02	1.209E-02
HO	3.457E-01	3.813E-01	3.728E-01
H2	6.654E-06	7.236E-07	2.069E-07

P1 = 5.00E+03 N/50-M, US1 = 5.60E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.416E+03	1.546E+04	2.799E+04
T	1.641E+02	1.743E+02	2.642E+02
RHO	9.53E+00	2.977E+01	3.559E+01
M	4.35E+02	1.514E+02	1.315E+03
A	1.56E+01	2.326E+01	2.751E+01
S	2.31E+01	7.411E+01	2.531E+00
Z	2.52E+00	3.034E+00	3.222E+00
GAME	9.47E+01	1.623E+02	9.770E+01
U	3.82E+01	1.137E+01	1.245E+01
SPECIES ----- MOLE FRACTIONS -----			
E-	3.642E-01	4.562E-01	4.992E-01
HE	4.75E-02	2.503E-02	1.185E-02
ME+	4.75E-02	9.779E-02	9.599E-02
ME++	1.35E-07	2.364E-06	1.075E-02
H	1.9E-01	5.363E-02	2.294E-02
HO	3.10E-01	3.637E-01	3.053E-01
H2	1.74E-03	5.543E-06	7.597E-07

P1 = 5.03E+03 M/50-M, US1= 5.93E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.27E+03	2.0279E+04	3.7757E+04
T	1.2448E+02	2.3652E+02	3.1783E+02
RHD	8.9313E+00	2.64E+01	3.4658E+01
M	5.9533E+02	9.9903E+02	1.3730E+03
A	1.8465E+01	2.7514E+01	3.2712E+01
S	2.4941E+00	2.5744E+00	2.6945E+00
Z	2.9211E+00	3.2795E+00	3.4777E+00
GAME	9.3491E-01	5.9932E-01	9.9725E-01
U	4.6377E+01	1.4915E+01	1.5322E+01

SPECIES	WALL FRACTIONS
E-	4.3513E-01
ME	3.9655E-01
HE+	9.9093E-02
ME++	5.7697E-02
M	1.3537E-02
M+	1.9414E-02
M2	3.9194E-01
	4.1510E-07

P1 = 5.03E+03 M/50-M, US1= 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4692E+03	1.1323E+04	3.4955E+04
T	1.3176E+02	2.5111E+02	3.3704E+02
RHD	8.7473E+00	2.5855E+01	3.3991E+01
M	6.2612E+02	1.6641E+03	1.4704E+03
A	1.5442E+01	3.8258E+01	3.6317E+01
S	4.5251E+00	2.6173E+00	2.7278E+00
Z	2.9967E+00	3.2807E+00	3.4744E+00
GAME	5.57E-01	5.6929E-01	1.0030E+00
U	4.5921E+01	1.5573E+01	1.5992E+01

SPECIES	WALL FRACTIONS
E-	9.4721E-01
ME	4.9151E-02
HE+	9.1153E-02
ME++	1.7617E-02
M	1.3457E-02
M+	1.5596E-02
M2	3.4675E-01
	2.9523E-07

P1 = 5.06E+03 M/50-M, US1= 5.23E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6131E+03	1.7333E+04	3.3518E+04
T	1.0871E+02	1.9997E+02	2.6324E+02
RHD	9.9756E+00	2.9644E+01	3.5639E+01
M	4.7079E+02	9.1061E+02	1.1614E+03
A	1.6130E+01	2.4678E+01	2.8924E+01
S	2.3573E+00	2.4604E+00	2.5709E+00
Z	2.6791E+00	3.1322E+00	3.2742E+00
GAME	8.5434E-01	1.6393E+00	9.7267E-01
U	3.6924E+01	1.2301E+01	1.3513E+01

SPECIES	WALL FRACTIONS
E-	3.8380E-01
ME	1.4311E-02
HE+	5.6394E-02
ME++	2.3165E-02
M	1.5733E-01
M+	3.2749E-01
M2	1.4353E-05
	4.6778E-01
	1.9924E-02
	9.3135E-02
	9.6655E-04
	4.6382E-02
	3.7294E-01
	2.7712E-06
	4.9605E-01
	9.3310E-03
	7.8194E-02
	1.9373E-02
	1.7933E-02
	3.7911E-01
	4.6127E-07

P1 = 5.06E+03 M/50-M, US1= 5.63E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9192E+03	1.9116E+04	3.3032E+04
T	1.1366E+02	2.0479E+02	2.8136E+02
RHD	9.5958E+00	2.9374E+01	3.4313E+01
M	5.0761E+02	6.7431E+02	1.1897E+03
A	1.6937E+01	2.5947E+01	3.0324E+01
S	2.4007E+00	2.4983E+00	2.6651E+00
Z	2.7671E+00	3.1535E+00	3.3252E+00
GAME	5.351E-01	1.0353E+01	6.6454E-01
U	4.1361E+01	1.0725E+01	1.4138E+01

SPECIES	WALL FRACTIONS
E-	4.0244E-01
ME	6.1471E-02
HE+	1.5075E-02
ME++	2.2111E-02
M	1.6332E-02
M+	3.7634E-01
M2	1.1493E-06
	4.7475E-01
	1.5075E-02
	6.8598E-02
	1.3457E-02
	1.6632E-02
	3.7634E-01
	1.1493E-06
	5.0370E-01
	7.2211E-03
	6.8598E-02
	1.3457E-02
	1.6632E-02
	3.7634E-01
	1.1493E-06

Table I. - Continued

$$P_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/SQ-M, JS1 = 6.20E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6923E+03	2.2249E+04	6.1928E+04
T	1.3975E+02	2.6511E+02	3.6366E+02
RHO	8.4235E+00	2.5251E+01	3.2990E+01
M	6.6814E+02	1.1351E+03	1.5708E+03
A	2.6552E+01	2.6301E+01	3.6137E+01
S	2.5051E+00	2.6465E+00	2.7601E+00
Z	3.0650E+00	3.3236E+00	3.5162E+00
GAME	9.8597E-01	9.5983E-01	1.0303E+00
U	4.7245E+01	1.6119E+01	1.6724E+01

P1 = 5.00E+03 N/SQ-M, JS1 = 6.40E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.3923E+03	2.6394E+04	4.6391E+04
T	1.7275E+02	3.0335E+02	4.5039E+02
RHO	1.9205E+00	2.3169E+01	2.9629E+01
M	9.0144E+02	1.3499E+03	1.8968E+03
A	2.4153E+01	3.2264E+01	4.2378E+01
S	2.6747E+00	2.7509E+00	2.8727E+00
Z	3.2102E+00	3.4489E+00	3.5975E+00
GAME	1.3514E+00	9.7622E-01	1.1083E+00
U	5.1204E+01	1.7495E+01	1.9263E+01

P1 = 5.00E+03 N/SQ-M, JS1 = 6.60E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.8623E+03	2.6394E+04	4.6391E+04
T	1.7275E+02	3.0335E+02	4.5039E+02
RHO	1.9205E+00	2.3169E+01	2.9629E+01
M	9.0144E+02	1.3499E+03	1.8968E+03
A	2.4153E+01	3.2264E+01	4.2378E+01
S	2.6747E+00	2.7509E+00	2.8727E+00
Z	3.2102E+00	3.4489E+00	3.5975E+00
GAME	1.3514E+00	9.7622E-01	1.1083E+00
U	5.1204E+01	1.7495E+01	1.9263E+01

P1 = 5.00E+03 N/SQ-M, JS1 = 6.80E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.3923E+03	2.6394E+04	4.6391E+04
T	1.7275E+02	3.0335E+02	4.5039E+02
RHO	1.9205E+00	2.3169E+01	2.9629E+01
M	9.0144E+02	1.3499E+03	1.8968E+03
A	2.4153E+01	3.2264E+01	4.2378E+01
S	2.6747E+00	2.7509E+00	2.8727E+00
Z	3.2102E+00	3.4489E+00	3.5975E+00
GAME	1.3514E+00	9.7622E-01	1.1083E+00
U	5.1204E+01	1.7495E+01	1.9263E+01

P1 = 5.00E+03 N/SQ-M, JS1 = 7.00E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8623E+03	2.6394E+04	4.6391E+04
T	1.7275E+02	3.0335E+02	4.5039E+02
RHO	1.9205E+00	2.3169E+01	2.9629E+01
M	9.0144E+02	1.3499E+03	1.8968E+03
A	2.4153E+01	3.2264E+01	4.2378E+01
S	2.6747E+00	2.7509E+00	2.8727E+00
Z	3.2102E+00	3.4489E+00	3.5975E+00
GAME	1.3514E+00	9.7622E-01	1.1083E+00
U	5.1204E+01	1.7495E+01	1.9263E+01

SPECIES

MILE FRACTIONS

E-	4.8623E-01	5.2159E-01	5.4140E-01
FE	8.1335E-03	7.7283E-03	2.4697E-04
ME+	9.2951E-02	4.5141E-02	1.0774E-02
ME++	9.2951E-04	5.3611E-02	8.6258E-02
H	2.3944E-02	7.7622E-03	3.2134E-03
H+	3.8415E-01	3.6923E-01	3.5911E-01
M2	1.6659E-07	5.6647E-04	1.2194E-09

SPECIES

MILE FRACTIONS

E-	4.8623E-01	5.2159E-01	5.4140E-01
FE	8.1335E-03	7.7283E-03	2.4697E-04
ME+	9.2951E-02	4.5141E-02	1.0774E-02
ME++	9.2951E-04	5.3611E-02	8.6258E-02
H	2.3944E-02	7.7622E-03	3.2134E-03
H+	3.8415E-01	3.6923E-01	3.5911E-01
M2	1.6659E-07	5.6647E-04	1.2194E-09

P1 = 5.00E+03 N/SQ-M, US1 = 7.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.634E+03	2.4955E+04	4.7751E+04
T	1.8624E+02	3.1992E+02	4.8631E+02
RHO	7.679E+00	2.2372E+01	2.7191E+01
M	8.4839E+02	1.4237E+03	2.0138E+03
A	2.500E+01	3.233E+01	4.4372E+01
S	2.7089E+00	2.7844E+00	2.9065E+00
Z	3.2407E+00	3.4969E+00	3.6111E+00
GAPE	1.0363E+00	9.9310E-01	1.1211E+00
U	5.2477E+01	1.8011E+01	2.0649E+01

SPECIES	MOLE FRACTIONS
E-	5.2678E-01
HE	1.9225E-03
HE+	3.6476E-02
HE++	8.1991E-02
H	2.6408E-03
H+	1.4812E-02
H2	3.6634E-01
	3.8874E-08

P1 = 5.00E+03 N/SQ-M, US1 = 6.43E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9247E+03	2.3076E+04	4.4472E+04
T	1.4944E+02	2.7099E+02	3.8679E+02
RHO	8.4334E+00	2.4638E+01	3.1647E+01
M	7.1234E+02	1.2055E+03	1.6753E+03
A	2.1791E+01	2.9954E+01	3.8161E+01
S	2.6041E+00	2.6438E+00	2.7983E+00
Z	3.1253E+00	3.3551E+00	3.5514E+00
GAPE	1.2157E+00	9.5842E-01	1.0601E+00
U	4.9507E+01	1.6583E+01	1.7579E+01

SPECIES	MOLE FRACTIONS
E-	5.0969E-01
HE	4.9343E-03
HE+	6.3974E-02
HE++	3.5395E-02
H	7.7078E-02
H+	1.0110E-02
H2	3.6074E-01
	3.6362E-08

P1 = 5.00E+03 N/SQ-M, US1 = 6.63E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1504E+03	2.3795E+04	4.5356E+04
T	1.6030E+02	2.9177E+02	4.1722E+02
RHO	9.1734E+00	2.3924E+01	3.0175E+01
M	7.5534E+02	1.2774E+03	1.7851E+03
A	2.4221E+01	3.2766E+01	4.0355E+01
S	2.6394E+00	2.7108E+00	2.8263E+00
Z	3.1777E+00	3.4787E+00	3.5787E+00
GAPE	1.2421E+00	9.6472E-01	1.0840E+00
U	4.9921E+01	1.7542E+01	1.8555E+01

SPECIES	MOLE FRACTIONS
E-	5.1334E-01
HE	4.7110E-03
HE+	6.4244E-02
HE++	3.5942E-02
H	5.0943E-03
H+	3.7424E-03
H2	3.5912E-01
	2.1215E-08

Table I. - Continued

$$P_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/SQ-M, U11 = 4.00E+03 M/SEC				P1 = 1.00E+04 N/SQ-M, U11 = 7.00E+03 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P				P			
1.3967E+01				4.4012E+01			
3.5541E+00				8.4505E+00			
3.9293E+00				5.1937E+00			
3.6325E+00				9.3006E+00			
1.8736E+00				2.7726E+00			
1.0733E+00				1.1782E+00			
1.0006E+00				1.0024E+00			
9.8771E-01				9.0714E-01			
2.5703E+00				4.8719E+00			
SPECIES				SPECIES			
MULE FRACTIONS				MULE FRACTIONS			
5.6984E-53				5.5879E-15			
3.5000E-01				3.4922E-01			
1.7307E-62				7.7174E-36			
0.				0.			
4.4302E-09				5.6172E-03			
8.1343E-20				5.5879E-15			
6.5000E-01				6.4537E-01			
1.3458E-34				3.6261E-11			
3.5000E-01				3.4178E-01			
1.6982E-52				2.6424E-25			
0.				0.			
4.4974E-07				4.6994E-02			
8.1343E-20				3.6261E-11			
6.5000E-01				6.1124E-01			
5.3596E-20				1.7344E-09			
3.4997E-01				3.2987E-01			
2.6193E-43				1.3862E-21			
0.				2.1287E-79			
1.8453E-04				1.1500E-01			
1.3493E-19				1.7344E-09			
6.4985E-01				5.5512E-01			

P1 = 1.00E+04 N/50-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2025E+01	5.6114E+01	1.2747E+02
T	4.9879E+00	6.6793E+00	9.2149E+00
RHO	4.4153E+00	8.3999E+00	1.3799E+01
M	5.1726E+00	7.0746E+00	1.0295E+01
A	2.2002E+00	2.5196E+00	2.8800E+00
S	1.1114E+00	1.1159E+00	1.1391E+00
Z	1.0000E+00	1.0001E+00	1.0041E+00
GAME	9.7249E-01	9.5232E-01	9.0023E-01
U	3.3340E+00	1.7515E+00	1.5703E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	5.5933E-31	2.3244E-19	6.1307E-14
HE	3.5000E-01	3.4995E-01	3.4995E-01
HE+	1.7124E-50	2.2695E-42	3.8914E-31
HE++	0.	0.	0.
H	4.7008E-06	2.8510E-34	9.1001E-03
M+	8.1343E-23	3.1377E-19	6.1397E-14
H2	6.5002E-01	6.4976E-01	6.4331E-01

P1 = 1.00E+04 N/50-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1987E+01	8.5612E+01	1.9714E+02
T	6.6599E+00	9.1253E+00	1.1493E+01
RHO	4.8019E+00	1.6433E+01	1.6755E+01
M	7.6589E+00	1.3189E+01	1.4219E+01
A	2.5147E+00	2.8943E+00	3.1701E+00
S	1.1457E+00	1.1539E+00	1.1789E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.4593E-01	8.9819E-01	8.5419E-01
U	4.0944E+00	1.8332E+00	1.6447E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.1510E-10	5.5031E-14	4.3437E-11
HE	3.4995E-01	3.4995E-01	3.4995E-01
HE+	1.3100E-42	2.1712E-31	4.8908E-25
HE++	0.	0.	0.
H	3.6329E-04	4.4004E-03	4.6247E-02
M+	3.9690E-19	5.5031E-14	4.3437E-11
H2	6.4976E-01	6.4209E-01	6.1135E-01

P1 = 1.00E+04 N/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8474E+01	2.3700E+02	4.1260E+02
T	1.0074E+01	1.3251E+01	1.5244E+01
RHO	5.7171E+00	1.4759E+01	2.4344E+01
M	1.0714E+01	1.0011E+01	2.6700E+01
A	2.5647E+00	3.6767E+00	3.7756E+00
S	1.2390E+00	1.2189E+00	1.2621E+00
Z	1.0141E+00	1.0021E+00	1.1148E+00
GAME	9.6034E-01	9.5051E-01	9.4199E-01
U	5.6944E+00	1.8754E+00	1.7481E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.0309E-12	1.6775E-06	2.3217E-09
HE	3.4951E-01	3.4951E-01	3.4951E-01
HE+	1.4775E-23	4.4734E-22	4.3849E-19
HE++	0.	1.6079E-00	1.1744E-10
H	2.7740E-34	1.1471E-31	2.0464E-31
M+	2.0345E-17	1.6275E-09	2.3217E-09
H2	6.2711E-01	5.5051E-01	4.8121E-01

P1 = 1.00E+04 N/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5134E+01	3.5236E+02	5.9375E+02
T	1.1444E+01	1.1000E+01	1.7006E+01
RHO	6.3504E+00	4.1334E+01	2.0937E+01
M	1.4670E+01	2.4901E+01	3.0701E+01
A	3.6476E+00	3.7512E+00	4.1458E+00
S	1.2442E+00	4.7054E+00	1.3071E+00
Z	1.6341E+00	1.1445E+00	1.1907E+00
GAME	9.3204E-01	1.4600E-01	8.5403E-01
U	6.5352E+00	1.6710E+00	1.8979E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	7.3640E-11	2.0102E-09	1.8164E-07
HE	3.4724E-01	3.4724E-01	2.0943E-01
HE+	3.5407E-25	2.7505E-19	4.7556E-17
HE++	5.9404E-01	4.8908E-01	1.1419E-02
H	7.0010E-02	2.0353E-01	3.0011E-01
M+	7.5607E-11	2.6162E-08	1.9164E-07
H2	5.9259E-01	4.8908E-01	3.5746E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I. - Continued
 $P_1 = 10 \text{ kN/m}^2$

P1 = 1.00E+04 N/SQ-M, US1 = 1.00E+04 M/SEC					P1 = 1.00E+04 N/SQ-M, US1 = 1.00E+04 M/SEC				
SPECIES	MOLE FRACTIONS				SPECIES	MOLE FRACTIONS			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	
E-	9.4197E+01	4.5842E+02	8.0281E+02	P	E-	9.3317E+04	1.2305E+05	1.1741E-04	
HE	1.2589E+01	1.6792E+01	1.9133E+01	T	HE	2.9300E-01	2.4816E-01	2.2919E-01	
HE+	7.0066E+00	2.5197E+01	3.3378E+01	RHO	HE+	1.8631E-14	7.6313E-13	1.8979E-10	
HE++	1.8234E+01	3.0166E+01	3.8037E+01	M	HE++	8.7508E-54	7.7493E-47	5.6684E-38	
H	1.3375E+00	4.0990E+00	4.3705E+00	A	H	3.3941E-01	5.9193E-01	6.8946E-01	
S	1.2759E+00	1.3119E+00	1.3540E+00	S	H+	8.0367E-04	1.2305E-03	1.1741E-04	
Z	1.0680E+00	1.1780E+00	1.2591E+00	Z	H2	9.6309E-01	1.6589E-01	9.607E-02	
GAME	9.2855E-01	9.4941E-01	9.8954E-01	GAME					
U	7.3893E+00	2.0542E+00	1.9633E+00	U					

PI = 1.00E+04 N/SQ-M, US1= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9056E+02	1.3107E+03	2.1662E+03
T	1.6683E+01	2.5539E+01	3.3981E+01
RHO	9.0594E+00	3.4731E+01	3.9973E+01
M	3.5063E+01	6.0455E+01	7.8349E+01
A	4.2176E+03	6.0112E+03	7.5322E+03
S	1.4244E+00	1.4882E+00	1.5489E+00
Z	1.2608E+00	1.4891E+00	1.5947E+00
GAME	8.4545E-01	5.5314E-01	1.0469E+00
U	1.0735E+01	2.4318E+00	3.1456E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.4747E-07	4.6434E-05	7.0251E-04
HE	2.7770E-01	2.5539E-01	2.1949E-01
HE+	2.4048E-17	1.7661E-11	1.4179E-08
HE++	7.7140E-64	5.5744E-42	4.0954E-31
H	4.1373E-01	6.5680E-01	7.4375E-01
H+	2.4747E-07	4.6434E-05	7.0251E-04
H2	3.3868E-01	1.0837E-01	3.5373E-02

PI = 1.03E+04 N/SQ-M, US1= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1943E+02	1.5441E+03	2.6337E+03
T	1.7764E+01	2.9371E+01	4.2003E+01
RHO	9.3464E+00	3.4131E+01	3.8391E+01
M	4.0124E+01	6.9335E+01	9.2335E+01
A	4.8414E+03	6.7344E+03	9.4846E+03
S	1.4634E+00	1.5237E+00	1.5926E+00
Z	1.3214E+00	1.5322E+00	1.6314E+00
GAME	9.5671E-01	1.3325E+00	1.5336E+00
U	1.1546E+01	3.1603E+00	3.7194E+00

SPECIES ----- MOLE FRACTIONS -----

E-	7.3130E-07	1.9273E-04	3.6617E-03
HE	2.6487E-01	2.2451E-01	2.1454E-01
HE+	2.8403E-16	4.7223E-10	7.7897E-07
HE++	1.7495E-61	4.5244E-35	9.3134E-25
H	4.9126E-01	7.6142E-01	7.5337E-01
H+	7.3130E-07	1.9273E-04	3.6617E-03
H2	2.3414E-01	5.0346E-02	1.5614E-02

PI = 1.00E+04 N/SQ-M, US1= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1529E+02	6.7333E+02	1.3690E+03
T	1.3649E+01	1.8613E+01	2.1391E+01
RHO	7.6290E+00	2.9936E+01	3.7116E+01
M	2.1921E+01	3.6878E+01	4.6309E+01
A	3.5369E+00	4.4937E+00	5.0699E+00
S	1.3111E+00	1.3557E+00	1.4324E+00
Z	1.1072E+00	1.2503E+00	1.3464E+00
GAME	8.2772E-01	8.6396E-01	9.9247E-01
U	9.2335E+00	2.1709E+00	2.1309E+00

SPECIES ----- MOLE FRACTIONS -----

E-	5.1456E-09	7.5497E-07	5.0212E-06
HE	3.1611E-01	2.7992E-01	2.5996E-01
HE+	4.0809E-21	1.1138E-15	1.0486E-13
HE++	9.6332E-79	1.9226E-57	1.5747E-50
H	1.9368E-01	4.0044E-01	5.1433E-01
H+	5.1896E-09	7.5497E-07	5.0212E-06
H2	4.9021E-01	3.1544E-01	2.2551E-01

PI = 1.00E+04 N/SQ-M, US1= 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3842E+02	8.7325E+02	1.3829E+03
T	1.4661E+01	2.0777E+01	2.4204E+01
RHO	8.1889E+00	3.1933E+01	3.9716E+01
M	2.5955E+01	4.6197E+01	5.2621E+01
A	3.7475E+00	4.6166E+00	5.6842E+00
S	1.3476E+00	1.4332E+00	1.4514E+00
Z	1.1936E+00	1.3240E+00	1.4386E+00
GAME	9.3096E-01	9.8396E-01	9.2791E-01
U	9.0797E+00	2.3261E+00	2.3592E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.2754E-09	3.2241E-06	2.3241E-05
HE	3.0337E-01	2.6336E-01	2.6329E-01
HE+	1.0922E-19	3.4217E-14	3.0342E-12
HE++	2.3815E-72	5.4714E-52	3.3965E-44
H	2.6533E-01	4.7506E-01	6.0972E-01
H+	2.2754E-09	3.2241E-06	2.3241E-05
H2	4.3111E-01	2.4157E-01	1.6695E-01

Table I. - Continued

$$P_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/50-M, US1 = 1.60E+04 M/SEC				P1 = 1.00E+04 N/50-M, US1 = 1.90E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5009E+02	1.7503E+03	3.1011E+03	P	3.5093E+02	2.2282E+03	4.2399E+03
T	1.8947E+01	3.3709E+01	5.0082E+01	T	2.4247E+01	5.0497E+01	6.8499E+01
RHC	9.5298E+00	3.2398E+01	3.7402E+01	RHO	9.2263E+00	2.6512E+01	3.5511E+01
M	4.5535E+01	7.8502E+01	4.0649E+02	M	6.3761E+01	1.0814E+02	1.4970E+02
A	4.7833E+00	7.5348E+00	9.1639E+00	A	6.0832E+00	9.1596E+00	1.0606E+01
S	1.5032E+00	1.5681E+00	1.6298E+00	S	1.6197E+00	1.6656E+00	1.7232E+00
Z	1.3856E+00	1.6324E+00	1.6555E+00	Z	1.5686E+00	1.6643E+00	1.7430E+00
GAME	8.7177E-01	1.0513E+00	1.0124E+00	GAME	9.7297E-01	9.9827E-01	9.4215E-01
U	1.2343E+01	3.6295E+00	4.2191E+00	U	1.4631E+01	5.0787E+00	5.1252E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
L-	1.9156E-06	7.3702E-04	1.1441E-02	E-	5.1383E-05	1.4218E-02	5.6312E-02
HE	2.5270E-01	4.1842E-01	2.1140E-01	HE	2.8213E-01	2.1029E-01	2.9017E-01
HE+	2.7412E-15	1.3138E-01	1.2474E-04	HE+	6.9271E-12	1.6580E-05	6.3254E-04
HE++	3.0971E-56	4.6806E-31	1.8246E-20	HE++	1.2347E-43	3.9073E-20	2.4259E-14
H	5.5548E-01	7.472E-01	7.5761E-01	H	7.2490E-01	7.5568E-01	6.8426E-01
H+	1.9156E-06	7.3702E-04	1.1441E-02	H+	5.1383E-05	1.4218E-02	5.6312E-02
H2	1.9122E-01	3.0436E-02	8.1071E-03	H2	5.1968E-02	5.6053E-03	2.9436E-03

P1 = 1.00E+04 M/SO-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8628E+01	2.3286E+03	4.4189E+03
T	2.7307E+01	5.5453E+01	7.2999E+01
RHO	8.7707E+00	2.4907E+01	3.4354E+01
M	7.0454E+01	1.1996E+02	1.6432E+02
A	6.7503E+00	9.5235E+00	1.0998E+01
S	1.6550E+00	1.6955E+00	1.7531E+00
Z	1.6092E+00	1.6849E+00	1.7776E+00
GAME	1.0347E+00	9.7072E-01	9.3212E-01
U	1.5274E+01	5.3763E+00	5.2965E+00

SPECIES	W/LE FRACTIONS
E-	1.0019E-04
HE	2.0174E-01
HE+	1.9721E-03
HE++	2.0643E-18
H	7.5618E-01
H+	1.0015E-04
M2	2.5532E-02

P1 = 1.00E+04 M/SO-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2211E+02	2.3972E+03	4.5345E+03
T	3.1435E+01	5.5885E+01	7.6906E+01
RHO	8.2264E+00	2.3625E+01	3.2296E+01
M	7.7433E+01	1.2993E+02	1.7419E+02
A	7.4174E+00	9.9254E+00	1.1356E+01
S	1.6871E+00	1.7249E+00	1.7828E+00
Z	1.6321E+00	1.7399E+00	1.9136E+00
GAME	1.0721E+00	9.5177E-01	9.2452E-01
U	1.5994E+01	5.5931E+00	5.4306E+00

SPECIES	W/LE FRACTIONS
E-	7.6731E-04
HE	2.0445E-01
HE+	5.4219E-03
HE++	4.0137E-33
H	7.0772E-01
H+	7.4791E-04
M2	1.1714E-02

P1 = 1.00E+04 M/SO-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8235E+01	1.9325E+03	3.5464E+03
T	2.0316E+01	3.9252E+01	5.7161E+01
RHO	9.5965E+00	3.0224E+01	3.6905E+01
M	5.1257E+01	8.7977E+01	1.2073E+02
A	5.1285E+00	8.2311E+00	9.6967E+00
S	1.5425E+00	1.6033E+00	1.6626E+00
Z	1.4499E+00	1.6290E+00	1.6811E+00
GAME	8.9284E-01	1.0359E+00	9.7846E-01
U	1.3124E+01	4.1609E+00	4.6051E+00

SPECIES	W/LE FRACTIONS
E-	5.2655E-06
HE	2.4140E-01
HE+	2.9335E-14
HE++	9.4906E-53
H	6.2038E-01
H+	5.2435E-06
M2	1.3801E-01

P1 = 1.00E+04 M/SO-M, US1 = 1.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1612E+02	2.3932E+03	3.9342E+03
T	2.2064E+01	4.5023E+01	6.3248E+01
RHO	9.4958E+00	2.8232E+01	3.5402E+01
M	5.7368E+01	9.7435E+01	1.3525E+02
A	5.5475E+00	8.7439E+00	1.0172E+01
S	1.5823E+00	1.6351E+00	1.6933E+00
Z	1.5125E+00	1.6448E+00	1.7105E+00
GAME	9.2444E-01	1.0324E+00	9.5543E-01
U	1.3884E+01	4.6571E+00	4.8986E+00

SPECIES	W/LE FRACTIONS
E-	1.5426E-05
HE	2.3134E-01
HE+	3.8115E-13
HE++	2.6132E-49
H	6.7800E-01
H+	1.5426E-05
M2	9.3644E-02

Table I. - Continued

$$P_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/SQ-M, US1 = 2.20E+04 M/SEC					P1 = 1.00E+04 N/SQ-M, US1 = 2.50E+04 M/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	

E-	2.595E-03	5.1843E-02	4.592E+02	2.4803E+03	4.5946E+03	5.8535E+02	2.6847E+03	5.3290E+03	
HE	2.1283E-01	2.6122E-01	3.6015E+01	6.3991E+01	9.0545E+01	4.8652E+01	7.5552E+01	9.1608E+01	
HE+	9.8857E-08	3.7361E-04	7.7543E+03	2.2329E+01	3.0815E+01	7.1462E+00	2.1519E+01	2.9441E+01	
HE++	1.4366E-28	2.5632E-15	9.4720E+01	1.4155E+02	1.9276E+02	1.0930E+02	1.5117E+02	2.4231E+02	
M	7.7630E-01	6.9289E-01	7.9244E+00	1.0204E+01	1.1702E+01	8.8544E+00	1.1273E+01	1.2799E+01	
M+	2.5889E-03	5.1469E-02	1.6445E+00	1.7533E+00	1.9117E+00	1.7399E+00	1.9239E+00	1.9759E+00	
M2	5.9153E-03	2.2233E-03	1.0652E+00	9.3742E-01	9.1946E-01	1.6836E+00	1.8359E+00	1.9506E-01	
			1.6516E+01	5.7327E+00	5.5485E+00	9.5711E-01	9.1615E-01	9.0506E-01	
						1.8532E+01	6.1523E+00	5.9440E+00	

SPECIES		MOLE FRACTIONS	
-----		-----	
E-	2.167E-02	1.024E-01	1.659E-01
HE	2.078E-01	1.884E-01	1.674E-01
HE+	1.529E-05	2.163E-03	9.673E-03
HE++	2.028E-20	1.459E-12	4.809E-10
M	7.471E-01	6.054E-01	5.030E-01
M+	2.161E-02	1.002E-01	1.561E-01
M2	1.676E-03	1.204E-03	9.662E-04

P1 = 1.30E+04 N/SQ-M, US1 = 2.67E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3267E+02	3.2347E+03	5.7185E+03
T	5.2183E+01	7.9313E+01	9.5381E+01
RHO	7.1205E+00	2.1765E+01	2.9675E+01
M	1.1759E+02	1.9605E+02	2.6087E+02
A	9.1253E+00	1.1643E+01	1.3181E+01
S	1.8108E+00	1.8540E+00	1.9181E+00
Z	1.7327E+00	1.8738E+00	2.0203E+00
GAME	9.3744E-01	9.1210E-01	9.0162E-01
U	1.9263E+01	6.3052E+00	6.0737E+00

SPECIES	MOLE FRACTIONS
E-	3.2265E-02
HE	1.2048E-01
HE+	1.8339E-01
HE++	3.906E-03
H	5.008E-05
H+	7.6357E-19
H+	7.2867E-01
H+	5.7463E-01
H+	3.215E-22
H+	1.1709E-01
H+	1.0220E-03
H+	1.8405E-01
H+	1.6035E-01
H+	1.2885E-02
H+	1.4771E-09
H+	4.7000E-01
H+	1.7117E-01
H+	7.4459E-04

P1 = 1.00E+04 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.8237E+02	3.7157E+03	6.1637E+03
T	5.5635E+01	9.3026E+01	9.9211E+01
RHO	7.1373E+00	2.2130E+01	3.0049E+01
M	1.2672E+02	2.1169E+02	2.9049E+02
A	9.3971E+00	1.2015E+01	1.3573E+01
S	1.8322E+00	1.8776E+00	1.9435E+00
Z	1.7247E+00	1.9135E+00	2.0662E+00
GAME	9.2364E-01	9.0806E-01	9.9871E-01
U	2.0005E+01	6.4513E+00	6.2194E+00

SPECIES	MOLE FRACTIONS
E-	4.4344E-02
HE	2.0282E-01
HE+	1.1313E-03
HE++	1.4456E-17
H	7.0744E-01
H+	4.4231E-02
H+	1.3355E-01
H+	6.4413E-04
H+	1.3959E-01
H+	1.7734E-01
H+	5.315E-03
H+	4.1737E-09
H+	4.4231E-01
H+	1.8540E-01
H+	6.4413E-04

P1 = 1.00E+04 N/SQ-M, US1 = 2.63E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9964E+02	2.6031E+03	4.7547E+03
T	4.0564E+01	6.7906E+01	8.4113E+01
RHO	7.4282E+00	2.1648E+01	2.9885E+01
M	9.2375E+01	1.5391E+02	2.0813E+02
A	8.2864E+00	1.0551E+01	1.2055E+01
S	1.7419E+00	1.7798E+00	1.8395E+00
Z	1.6551E+00	1.7666E+00	1.9077E+00
GAME	1.0224E+00	9.1342E-01	9.1342E-01
U	1.7155E+01	5.8703E+00	5.6685E+00

SPECIES	MOLE FRACTIONS
E-	6.4945E-02
HE	1.2853E-01
HE+	1.8322E-01
HE++	4.8356E-03
H	7.3157E-04
H+	3.7206E-11
H+	5.6149E-01
H+	1.2364E-01
H+	1.2176E-03
H+	6.7783E-02
H+	1.9738E-01
H+	7.3157E-04
H+	2.8397E-14
H+	6.5529E-01
H+	6.7501E-02
H+	1.2176E-03

P1 = 1.00E+04 N/SQ-M, US1 = 2.63E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.4004E+02	2.7724E+03	5.0219E+03
T	4.4732E+01	7.1752E+01	8.7934E+01
RHO	7.2373E+00	2.1406E+01	2.9471E+01
M	1.0362E+02	1.6712E+02	2.2444E+02
A	9.5844E+00	1.0938E+01	1.2421E+01
S	1.7664E+00	1.8253E+00	1.8603E+00
Z	1.6677E+00	1.8003E+00	1.9323E+00
GAME	9.8565E-01	9.2117E-01	9.0911E-01
U	1.7927E+01	6.3034E+00	5.7942E+00

SPECIES	MOLE FRACTIONS
E-	1.2843E-02
HE	6.4767E-02
HE+	1.0314E-01
HE++	1.5000E-03
H	1.0000E-22
H+	6.4767E-01
H+	4.4231E-02
H+	1.3355E-01
H+	6.4413E-04
H+	1.3959E-01
H+	1.7734E-01
H+	5.315E-03
H+	4.1737E-09
H+	4.4231E-01
H+	1.8540E-01
H+	6.4413E-04

Table 1. - Continued.

$$P_1 = 10 \text{ KN/m}^2$$

P1 = 1.00E+04 N/SQ-M, US1 = 2.80E+04 M/SEC				P1 = 1.00E+04 N/SQ-M, US1 = 3.20E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	7.3461E+02	3.8296E+03	6.5605E+03	P	5.6513E+02	5.5197E+03	9.0325E+03
T	5.8481E+01	9.6721E+01	1.7330E+02	T	6.9299E+01	1.0111E+02	1.1899E+02
RHO	7.1819E+00	2.2592E+01	3.2579E+01	RHO	7.4692E+00	2.4725E+01	3.2900E+01
M	1.3625E+02	2.2014E+02	3.0111E+02	M	1.7791E+02	3.0075E+02	3.9236E+02
A	9.670E+00	1.2369E+01	1.3974E+01	A	1.0773E+01	1.3940E+01	1.5702E+01
S	1.8532E+00	1.9011E+00	1.9688E+00	S	1.9354E+00	1.9940E+00	2.0698E+00
Z	1.7693E+00	1.9567E+00	2.1130E+00	Z	1.8640E+00	2.1278E+00	2.3072E+00
GAME	9.1434E-01	9.0539E-01	8.9651E-01	GAME	8.9813E-01	8.9553E-01	8.9806E-01
U	2.0773E+01	6.0597E+00	6.3685E+00	U	2.3889E+01	7.2111E+00	7.0094E+00
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	5.7457E-J2	1.5663E-G1	2.1968E-01	E-	1.1534E-G1	2.2503E-G1	2.8519E-01
HE	1.9949E-01	1.7191E-01	1.4470E-01	HE	1.8619E-01	1.4409E-01	1.1579E-01
HE+	2.2306E-04	7.1518E-03	2.0937E-02	HE+	1.5218E-03	2.0405E-J2	4.0905E-02
H	1.6858E-16	1.2521E-10	1.4942E-09	H	1.8329E-13	8.2992E-09	2.6547E-J7
H+	6.8425E-01	5.1408E-01	4.1537E-01	H+	5.8223E-01	4.3548E-01	3.1851E-01
M	5.7274E-J2	1.4949E-01	1.9874E-01	M	1.1423E-01	2.0459E-01	2.4429E-01
M2	8.6773E-04	7.5850E-04	5.6000E-04	M2	4.6774E-04	4.4613E-04	3.2424E-04

P1 = 1.00E+04 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8901E+02	4.1670E+03	7.1986E+03
T	6.1358E+01	9.0363E+01	1.0699E+02
RHO	7.2626E+00	2.3094E+01	3.1142E+01
M	1.4613E+02	2.4526E+02	3.2264E+02
A	9.9454E+03	1.2763E+01	1.4385E+01
S	1.8746E+00	1.9244E+00	1.9941E+00
Z	1.7755E+03	1.9968E+00	2.1606E+00
GAME	9.0795E-01	9.0239E-01	8.9520E-01
U	2.1544E+01	6.7511E+00	6.5254E+00

SPECIES ----- MILE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	7.1407E-02	1.7436E-01	2.3682E-01
ME	1.9673E-01	1.6552E-01	1.3638E-01
ME+	3.9779E-04	9.7599E-03	2.5611E-02
HE+	1.3727E-15	4.1580E-10	2.6446E-04
M	6.972E-01	4.8511E-01	3.8949E-01
M+	7.1009E-02	1.6460E-01	2.1121E-01
M2	7.3204E-04	6.6317E-04	4.9837E-04

P1 = 1.00E+04 N/SQ-M, US1 = 3.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4559E+02	4.5280E+03	7.7739E+03
T	6.4103E+01	9.3970E+01	1.1092E+02
RHO	7.3134E+00	2.1626E+01	3.1731E+01
M	1.5637E+02	2.6309E+02	3.4498E+02
A	1.0221E+01	1.3132E+01	1.4907E+01
S	1.8945E+00	1.9476E+00	2.0193E+00
Z	1.8037E+00	2.0399E+00	2.2028E+00
GAME	9.0351E-01	8.9947E-01	8.9493E-01
U	2.2322E+01	6.9044E+00	6.6790E+00

SPECIES ----- MILE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	8.5839E-02	1.6173E-01	2.5341E-01
ME	1.9339E-01	1.5972E-01	1.2792E-01
ME+	6.5745E-04	1.2461E-02	3.7561E-02
HE+	9.5301E-15	1.2364E-09	6.0013E-09
M	6.3631E-01	4.5731E-01	3.6496E-01
M+	8.5181E-02	1.7984E-01	2.2285E-01
M2	6.2545E-04	5.7717E-04	4.2665E-04

P1 = 1.00E+04 N/SQ-M, US1 = 3.43E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0924E+03	5.1029E+03	1.0625E+04
T	7.4211E+01	1.8421E+02	1.2755E+02
RHO	7.6294E+00	2.5379E+01	3.3945E+01
M	2.0087E+02	3.4102E+02	4.4343E+02
A	1.1324E+01	1.4647E+01	1.6691E+01
S	1.5761E+00	2.6434E+00	2.1231E+00
Z	1.3011E+00	2.2170E+00	2.4098E+00
GAME	8.9571E-01	8.9434E-01	8.9473E-01
U	2.5603E+01	7.5231E+00	7.2799E+00

SPECIES ----- MILE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.4555E-01	2.5631E-01	3.1526E-01
ME	1.7831E-01	1.2851E-01	9.4155E-02
ME+	3.0391E-03	2.6531E-02	5.1161E-02
HE+	2.2549E-12	4.1734E-09	1.2136E-06
M	5.3031E-01	3.5433E-01	2.7509E-01
M+	1.4244E-01	2.2703E-01	2.6412E-01
M2	3.5039E-04	3.4501E-04	2.6417E-04

P1 = 1.00E+04 N/SQ-M, US1 = 3.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2229E+03	7.1401E+03	1.1054E+04
T	7.8547E+01	1.1539E+02	1.3653E+02
RHO	7.7342E+00	2.3759E+01	3.4765E+01
M	2.2523E+02	3.9391E+02	4.9843E+02
A	1.1874E+01	1.3452E+01	1.7807E+01
S	2.0167E+00	2.0873E+00	2.1720E+00
Z	1.5964E+00	2.3543E+00	2.5134E+00
GAME	8.9237E-01	8.9616E-01	8.9214E-01
U	2.7362E+01	7.9523E+00	7.8039E+00

SPECIES ----- MILE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.7511E-01	3.4509E-01	3.4375E-01
ME	1.6722E-01	1.1266E-01	7.9676E-02
ME+	5.3117E-03	3.4914E-02	6.0562E-02
HE+	1.8144E-11	1.0902E-07	2.5314E-05
M	4.6799E-01	3.1579E-01	2.3445E-01
M+	1.0076E-01	2.6077E-01	2.6031E-01
M2	2.7422E-04	2.6998E-04	1.7355E-04

Table 1. - Continued

 $P_1 = 10 \text{ kW m}^{-2}$

P1 = 1.00E+04 N/SQ-M, US1 = 3.90E+04 W/SEC				P1 = 1.00E+04 N/SQ-M, US1 = 4.60E+04 W/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
E-				E-			
ME				ME			
ME+				ME+			
ME++				ME++			
H				H			
M+				M+			
M2				M2			
P				P			
T				T			
RHO				RHO			
M				M			
A				A			
S				S			
Z				Z			
GAME				GAME			
U				U			
E-				E-			
ME				ME			
ME+				ME+			
ME++				ME++			
H				H			
M+				M+			
M2				M2			
P				P			
T				T			
RHO				RHO			
M				M			
A				A			
S				S			
Z				Z			
GAME				GAME			
U				U			

P1 = 1.00E+04 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0279E+03	1.2667E+04	2.1921E+04
T	1.0141E+02	1.5845E+02	2.1074E+02
RHO	9.4161E+00	2.8776E+01	3.4433E+01
M	3.6795E+02	6.3230E+02	8.4431E+02
A	1.4623E+01	2.5691E+01	2.5671E+01
S	2.2221E+00	2.3161E+00	2.4239E+00
Z	2.3763E+00	2.7781E+00	3.0211E+00
GAME	8.8742E-01	9.7162E-01	1.0352E+00
U	3.4936E+01	1.0208E+01	1.1299E+01

SPECIES	MOLE FRACTIONS
E-	3.0563E-01
ME	1.1480E-01
ME+	3.2511E-02
ME++	2.7355E-08
M	2.7387E-01
M+	3.2915E-01
M2	7.7033E-05
	4.0612E-01
	4.8062E-02
	7.7942E-02
	9.5981E-02
	4.2362E-05
	1.3699E-01
	3.2915E-01
	5.0246E-05
	4.5383E-01
	2.8657E-02
	9.5981E-02
	1.3100E-03
	6.4999E-02
	3.6531E-01
	1.1965E-05

P1 = 1.00E+04 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2110E+03	1.3837E+04	2.4355E+04
T	1.0394E+02	1.6999E+02	2.3245E+02
RHO	8.5030E+00	2.8422E+01	3.3867E+01
M	4.0771E+02	6.9912E+02	9.2793E+02
A	1.5211E+01	2.2317E+01	2.7154E+01
S	2.2635E+00	2.3601E+00	2.4733E+00
Z	2.4544E+00	2.9655E+00	3.0937E+00
GAME	8.8979E-01	9.5795E-01	1.0233E+00
U	3.6507E+01	1.0900E+01	1.2245E+01

SPECIES	MOLE FRACTIONS
E-	3.2740E-01
ME	1.2210E-01
ME+	3.0909E-02
ME++	9.2171E-02
M	1.1773E-04
M+	1.1175E-01
M2	1.4196E-01
	3.1135E-05
	4.2421E-01
	3.0909E-02
	9.2171E-02
	1.1773E-04
	1.1175E-01
	1.4196E-01
	3.1135E-05
	4.2421E-01
	3.0909E-02
	9.2171E-02
	1.1773E-04
	1.1175E-01
	1.4196E-01
	3.1135E-05

P1 = 1.00E+04 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5247E+03	9.2264E+03	1.5460E+04
T	8.8061E+01	1.3060E+02	1.5942E+02
RHO	9.0699E+00	2.9305E+01	3.5549E+01
M	2.7815E+02	4.7664E+02	6.2113E+02
A	1.2962E+01	1.7255E+01	2.0519E+01
S	2.0985E+00	2.1800E+00	2.2741E+00
Z	2.1458E+00	2.4959E+00	2.7291E+00
GAME	8.8906E-01	9.1337E-01	9.6808E-01
U	3.0203E+01	8.6069E+00	9.5735E+00

SPECIES	MOLE FRACTIONS
E-	2.3123E-01
ME	1.5060E-01
ME+	1.3224E-02
ME++	5.8321E-10
M	3.8728E-01
M+	2.8902E-01
M2	2.8151E-01
	1.6461E-04
	4.3908E-01
	9.2661E-02
	5.7565E-02
	1.8684E-06
	2.3902E-01
	3.2010E-01
	7.5929E-05
	3.9524E-01
	5.3176E-02
	7.5381E-02
	9.7824E-05
	1.6277E-01
	3.2010E-01
	7.5929E-05

P1 = 1.00E+04 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6842E+03	1.0344E+04	1.7450E+04
T	5.2517E+01	1.3999E+02	1.7395E+02
RHO	8.1965E+00	2.8733E+01	3.5402E+01
M	3.0672E+02	5.2649E+02	6.9003E+02
A	1.3536E+01	1.8288E+01	2.2169E+01
S	2.1395E+00	2.2261E+00	2.3235E+00
Z	2.2215E+00	2.5907E+00	2.8352E+00
GAME	8.9755E-01	9.2946E-01	9.7033E-01
U	3.1783E+01	8.0036E+00	9.5722E+00

SPECIES	MOLE FRACTIONS
E-	2.5739E-01
ME	1.3924E-01
ME+	2.6161E-02
ME++	2.4101E-02
M	3.4610E-01
M+	2.3071E-01
M2	1.2743E-04
	3.6321E-01
	5.0935E-02
	6.9591E-02
	5.4768E-06
	2.0397E-01
	2.9761E-01
	1.1135E-04
	4.1949E-01
	4.3245E-02
	9.0594E-02
	1.2571E-04
	1.2049E-01
	3.3773E-01
	4.4079E-05

Table I. - Continued

$$p_1 = 10 \text{ kN m}^{-2}$$

P1 = 1.00E+04 N/50-M, US1 = 5.00E+04 M/SEC				P1 = 1.00E+04 N/50-M, US1 = 5.60E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	M	P	T	RHO	M
2.4315E+03	1.4956E+04	2.6418E+04	2.5333E+02	3.0141E+03	1.8251E+04	2.2769E+02	3.4061E+04
1.1241E+02	1.8254E+02	2.5333E+02	3.3544E+01	1.2630E+02	2.2769E+02	2.5632E+01	3.1156E+02
8.571E+00	2.7898E+01	3.3544E+01	1.0139E+03	8.6117E+00	2.5632E+01	9.2769E+02	3.2905E+01
4.3481E+02	7.4563E+02	1.0139E+03	2.8317E+01	5.4524E+02	2.7004E+01	2.5178E+00	1.2811E+03
1.5823E+01	2.3330E+01	2.8317E+01	2.5124E+00	1.7978E+01	2.7004E+01	3.1272E+00	3.1744E+01
2.3051E+00	2.4214E+00	2.5124E+00	3.1533E+00	2.4286E+00	3.1272E+00	1.0242E+00	3.3143E+00
2.5334E+00	2.9446E+00	3.1533E+00	1.2025E+02	2.7711E+00	1.0242E+00	1.4319E+01	9.7712E-01
9.9411E-01	1.3179E+00	1.2025E+02	1.3083E+01	9.2343E-01	1.4319E+01		1.5088E+01
3.8235E+01	1.1465E+01	1.3083E+01		4.2660E+01			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
F	3.4475E-01	4.3957E-01	4.7679E-01	E	4.0459E-01	4.7238E-01	5.0216E-01
HE	8.5374E-02	3.3284E-02	1.9082E-02	HE	5.1864E-02	1.9499E-02	9.5237E-03
HE+	4.3775E-02	6.5279E-02	8.3591E-02	HE+	7.2436E-02	5.8450E-02	6.3022E-02
HE++	2.1214E-07	2.0694E-04	8.3138E-03	HE++	3.2076E-04	3.9704E-03	3.3057E-02
M	2.1314E-01	1.7645E-02	3.5667E-02	M	1.3695E-01	3.9706E-02	1.9221E-02
MO	2.3507E-01	3.5390E-01	3.7656E-01	MO	3.3214E-01	3.7599E-01	3.7302E-01
P2	4.5731E-05	1.8439E-05	3.3703E-06	P2	1.7668E-05	3.2959E-06	9.5902E-07

P1 = 1.00E+04 M/SQ-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2305E+03	1.9264E+04	3.6322E+04
T	1.3251E+02	2.4355E+02	3.3076E+02
RHO	9.5584E+00	2.4922E+01	3.2830E+01
M	5.8471E+02	9.9194E+02	1.3744E+03
A	1.3835E+01	2.7860E+01	3.3131E+01
S	2.4691E+00	2.5544E+00	2.6659E+00
Z	7.8485E+00	3.1730E+00	3.3654E+00
GAME	1.3988E-01	1.0041E+00	9.8409E-01
U	4.4148E+01	1.5150E+01	1.5701E+01

SPECIES	MOLE FRACTIONS
E-	4.2076E-01
HE	4.3757E-02
HE+	7.9068E-02
HE++	7.7348E-06
H	1.1449E-02
H+	3.4167E-01
H2	1.2040E-05
	1.9551E-06
	5.0972E-01
	7.1027E-03
	5.4234E-02
	4.2684E-02
	1.6127E-02
	3.7014E-01
	6.7033E-07

P1 = 1.00E+04 M/SQ-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4519E+03	2.6240E+04	3.8430E+04
T	1.3954E+02	2.5891E+02	3.5110E+02
RHO	8.4614E+00	2.4292E+01	3.2057E+01
M	6.2546E+02	1.0583E+03	1.4710E+03
A	1.9792E+01	2.8656E+01	3.4453E+01
S	2.5952E+00	2.5905E+00	2.7024E+00
Z	2.9236E+00	3.2181E+00	3.4144E+00
GAME	9.6021E-01	9.8554E-01	1.0017E+00
U	4.5602E+01	1.5870E+01	1.6344E+01

SPECIES	MOLE FRACTIONS
E-	4.3563E-01
HE	4.8727E-01
HE+	1.3495E-02
HE++	8.2099E-02
H	1.3179E-02
H+	2.5155E-02
H2	3.7881E-01
	1.2304E-06
	5.1675E-01
	5.0475E-03
	4.5426E-02
	5.2034E-02
	1.3489E-02
	3.8725E-01
	4.6352E-07

P1 = 1.00E+04 M/SQ-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5991E+03	1.6116E+04	2.9271E+04
T	1.1545E+02	1.9669E+02	2.7369E+02
RHO	8.6135E+00	2.7173E+01	3.3329E+01
M	4.7327E+02	9.0465E+02	1.1039E+03
A	1.6483E+01	2.4754E+01	2.9401E+01
S	2.3464E+00	2.4419E+00	2.5528E+00
Z	2.8128E+00	3.0154E+00	3.2389E+00
GAME	9.3091E-01	1.0332E+00	5.8425E-01
U	3.9614E+01	1.2545E+01	1.3803E+01

SPECIES	MOLE FRACTIONS
E-	3.6853E-01
HE	7.6904E-02
HE+	5.7051E-02
HE++	5.3999E-07
H	1.8600E-01
H+	3.1149E-01
H2	3.3924E-05
	4.5291E-01
	1.5439E-02
	7.9401E-02
	1.5231E-02
	2.8170E-02
	3.7495E-01
	2.3760E-06

P1 = 1.00E+04 M/SQ-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8234E+03	1.7164E+04	3.1605E+04
T	1.2366E+02	2.1189E+02	2.7299E+02
RHO	9.6284E+00	2.6382E+01	3.3154E+01
M	5.0702E+02	9.6521E+02	1.1899E+03
A	1.7230E+01	2.5693E+01	3.0444E+01
S	2.3877E+00	2.4826E+00	2.5613E+00
Z	2.6922E+00	3.0757E+00	3.2629E+00
GAME	9.1351E-01	1.0339E+00	3.7591E-01
U	4.1144E+01	1.3452E+01	1.4455E+01

SPECIES	MOLE FRACTIONS
E-	3.8715E-01
HE	4.6354E-01
HE+	2.2253E-02
HE++	8.8722E-02
H	1.3277E-02
H+	5.1479E-02
H2	3.7113E-01
	1.7921E-06
	4.6330E-01
	7.1027E-03
	4.5426E-02
	5.2034E-02
	1.3489E-02
	3.8725E-01
	4.6352E-07

Table I. - Continued

$$P_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/30-M, US1= 6.20E+04 M/SEC				P1 = 1.00E+04 N/30-M, US1= 6.80E+04 M/SEC			
P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
T	3.670E+03	2.126E+04	4.042E+04	T	4.381E+03	2.355E+04	4.532E+04
RMU	1.474E+02	2.734E+02	3.733E+02	RMU	1.709E+02	3.150E+02	4.507E+02
M	8.341E+00	2.382E+01	3.130E+01	M	7.734E+00	2.201E+01	2.787E+01
A	6.675E+02	1.127E+03	1.570E+03	A	8.010E+02	1.342E+03	1.892E+03
S	2.083E+01	2.947E+01	3.634E+01	S	2.429E+01	3.232E+01	4.210E+01
Z	4.547E+00	2.625E+00	2.739E+00	Z	4.850E+00	2.728E+00	2.847E+00
GAME	2.993E+00	3.261E+00	3.459E+00	GAME	3.150E+00	3.388E+00	3.554E+00
U	9.826E-01	9.738E-01	1.022E+00	U	1.049E+00	9.785E-01	1.094E+00
	4.703E+01	1.637E+01	1.702E+01		5.107E+01	1.798E+01	1.950E+01
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.467E-01	4.940E-01	5.230E-01	E-	7.730E-01	5.131E-01	5.304E-01
HE	2.749E-02	1.109E-02	3.370E-02	HE	1.310E-02	5.430E-02	7.493E-02
HE+	8.932E-02	7.622E-02	3.706E-02	HE+	9.095E-02	5.342E-02	1.797E-02
HE++	4.712E-02	2.001E-02	6.074E-02	HE++	8.036E-02	4.420E-02	7.902E-02
M	7.508E-02	2.087E-02	1.119E-02	M	3.309E-02	1.276E-02	5.424E-02
H+	3.552E-01	3.777E-01	3.658E-01	H+	3.787E-01	3.708E-01	3.592E-01
M2	4.790E-06	8.278E-07	3.130E-07	M2	7.934E-07	2.873E-07	7.495E-06

PI = 1.00E+04 N/SEC US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6236E+03	2.4237E+04	4.6914E+04
T	1.9167E+02	3.3093E+02	4.9220E+02
RMU	7.5533E+00	2.1354E+01	2.6427E+01
H	8.4795E+01	1.4164E+03	2.0111E+03
A	2.5244E+01	3.3536E+01	4.4246E+01
S	2.6844E+00	2.7619E+00	2.8830E+00
Z	3.1330E+00	3.4296E+00	3.5003E+00
GAME	1.0414E+00	9.9091E-01	1.1110E+00
U	5.2360E+01	1.8471E+01	2.0720E+01

SPECIES	MOLE FRACTIONS
E-	5.1890E-01
HE	4.0243E-03
HE+	4.5327E-02
HE++	5.2700E-02
H	1.0873E-02
H+	3.6817E-01
N2	2.0321E-07

PI = 1.00E+04 N/SEC US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4042E+03	2.2099E+04	4.2235E+04
T	1.5006E+02	7.8793E+02	3.9872E+02
RMU	9.1640E+00	2.3223E+01	3.0263E+01
H	7.1071E+01	1.1978E+03	1.6732E+03
A	2.1978E+01	3.0371E+01	3.8244E+01
S	2.5825E+00	2.6604E+00	2.7770E+00
Z	3.0267E+00	3.3049E+00	3.5005E+00
GAME	1.0400E+00	9.6932E-01	1.0402E+00
U	4.8410E+01	1.6972E+01	1.7842E+01

SPECIES	MOLE FRACTIONS
E-	5.0074E-01
HE	8.9139E-03
HE+	6.9072E-02
HE++	2.7917E-02
H	1.7515E-02
H+	3.7584E-01
N2	5.6835E-07

PI = 1.00E+04 N/SEC US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.1422E+03	2.2866E+04	4.3839E+04
T	1.0704E+02	3.0162E+02	4.2576E+02
RMU	7.9740E+00	2.2652E+01	2.9198E+01
H	7.5222E+01	1.2690E+03	1.7806E+03
A	4.3140E+01	3.1311E+01	4.0106E+01
S	4.0211E+00	2.6940E+00	2.8121E+00
Z	3.1105E+00	3.3468E+00	3.3334E+00
GAME	1.0313E+00	9.7120E-01	1.0725E+00
U	4.5753E+01	1.7497E+01	1.8633E+01

SPECIES	MOLE FRACTIONS
E-	5.0700E-01
HE	7.0723E-03
HE+	6.1493E-02
HE++	3.6020E-02
H	1.4950E-02
H+	3.7247E-01
N2	4.0463E-07

$$p_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1= 4.00E+03 M/SEC				P1 = 2.00E+04 N/SQ-M, US1= 7.00E+03 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.3967E+01	2.8745E+01	7.2704E+01	P	4.3967E+01	1.5127E+02	2.8703E+02
T	3.5541E+00	4.5740E+00	6.5326E+00	T	9.4849E+00	1.1521E+01	1.3823E+01
RHGO	3.9293E+00	6.4257E+00	1.1128E+01	RMC	5.1711E+00	1.2878E+01	1.9705E+01
H	3.6323E+00	4.6130E+00	6.9636E+00	M	9.2978E+00	1.4004E+01	1.6903E+01
S	1.8736E+00	2.0903E+00	2.4964E+00	A	2.7898E+00	3.1821E+00	3.5158E+00
S	1.0782E+00	1.0802E+00	1.1012E+00	S	1.1854E+00	1.1969E+00	1.2269E+00
Z	1.0000E+00	1.0000E+00	1.0001E+00	Z	1.0021E+00	1.0195E+00	1.0536E+00
GAME	9.8771E-01	9.7664E-01	9.5361E-01	GAP	9.1535E-01	9.6206E-01	9.4962E-01
U	2.5703E+00	1.5703E+00	1.4040E+00	U	4.8668E+00	1.9531E+00	1.7332E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	2.0147E-53	6.5262E-35	2.5605E-20	E-	3.9972E-15	3.4245E-11	2.2029E-09
HE	3.5000E-01	3.5000E-01	3.5000E-01	HE	3.6927E-01	3.4300E-01	3.3220E-01
HE+	2.4475E-62	2.4016E-52	2.8067E-43	HE+	4.9590E-34	5.4119E-25	5.5964E-21
HE++	0.	0.	0.	HE++	0.	0.	3.7268E-77
H	3.1336E-09	3.1802E-07	1.3096E-04	H	4.1568E-03	3.8262E-02	1.0169E-01
M+	9.1343E-20	8.1343E-20	1.0703E-19	M+	3.9973E-15	3.4245E-11	2.2029E-09
M2	6.5000E-01	6.5000E-01	6.4989E-01	M2	6.4657E-01	6.1843E-01	5.6611E-01

P1 = 2.00E+04 N/SQ-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2024E+01	5.6094E+01	1.2707E+02
T	4.9879E+00	6.6804E+00	9.2767E+00
RMC	4.4153E+00	8.3954E+00	1.3742E+01
M	5.1726E+00	7.0778E+00	1.0300E+01
A	2.2002E+00	2.5214E+00	2.9077E+00
S	1.1158E+00	1.1203E+00	1.1445E+00
Z	1.0000E+00	1.0001E+00	1.0031E+00
GAME	9.7053E-01	9.5151E-01	9.0857E-01
U	3.3339E+00	1.7524E+00	1.5796E+00

P1 = 2.00E+04 N/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2024E+01	5.6094E+01	1.2707E+02
T	4.9879E+00	6.6804E+00	9.2767E+00
RMC	4.4153E+00	8.3954E+00	1.3742E+01
M	5.1726E+00	7.0778E+00	1.0300E+01
A	2.2002E+00	2.5214E+00	2.9077E+00
S	1.1158E+00	1.1203E+00	1.1445E+00
Z	1.0000E+00	1.0001E+00	1.0031E+00
GAME	9.7053E-01	9.5151E-01	9.0857E-01
U	3.3339E+00	1.7524E+00	1.5796E+00

SPECIES	MOLE FRACTIONS
E-	1.9245E-12
HE	3.4612E-01
HE+	4.2745E-24
HE++	0.
H	2.2159E-02
H+	1.9245E-12
H2	6.3109E-01

SPECIES	MOLE FRACTIONS
E-	1.9245E-12
HE	3.4612E-01
HE+	4.2745E-24
HE++	0.
H	2.2159E-02
H+	1.9245E-12
H2	6.3109E-01

P1 = 2.00E+04 N/SQ-M, US1 = 9.03E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.4893E+01	3.3905E+02	5.7326E+02
T	1.1681E+01	1.5537E+01	1.7873E+01
RMC	6.2195E+00	1.9866E+01	2.7514E+01
M	1.4881E+01	2.3935E+01	3.0741E+01
A	3.1915E+00	3.8066E+00	4.2341E+00
S	1.2504E+00	1.2762E+00	1.3143E+00
Z	1.0308E+00	1.1014E+00	1.1657E+00
GAME	9.4595E-01	9.4766E-01	9.6046E-01
U	6.5098E+00	2.0362E+00	1.9017E+00

P1 = 2.00E+04 N/SQ-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1983E+01	9.5118E+01	1.9788E+02
T	6.8624E+00	9.1608E+00	1.1732E+01
RMC	4.7998E+00	1.0351E+01	1.6540E+01
M	7.0584E+00	1.0174E+01	1.4276E+01
A	2.5171E+00	2.8878E+00	3.2146E+00
S	1.1514E+00	1.1587E+00	1.1855E+00
Z	1.0001E+00	1.0031E+00	1.0197E+00
GAME	9.5082E-01	9.0746E-01	8.6375E-01
U	4.0943E+00	1.8989E+00	1.6745E+00

SPECIES	MOLE FRACTIONS
E-	9.2955E-11
HE	3.3953E-01
HE+	1.2213E-24
HE++	0.6745E-68
H	5.5952E-02
H+	8.2855E-11
H2	6.0362E-01

SPECIES	MOLE FRACTIONS
E-	9.2955E-11
HE	3.3953E-01
HE+	1.2213E-24
HE++	0.6745E-68
H	5.5952E-02
H+	8.2855E-11
H2	6.0362E-01

$p_1 = 20 \text{ kN/m}^2$

P1 = 2.00E+04 N/SQ-M, US1= 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.3795E+01	4.7795E+02	7.8386E+02
T	1.2995E+01	2.7460E+01	2.0092E+01
RHO	6.8248E+00	2.3583E+01	3.1461E+01
M	1.8215E+01	2.9995E+01	3.8125E+01
A	3.3902E+00	4.1677E+00	4.6763E+00
H	1.2842E+00	1.3181E+00	1.3606E+00
S	1.0599E+00	1.1608E+00	1.2400E+00
Z	9.3639E-01	8.5705E-01	8.7768E-01
GAGE	7.3567E+00	2.1280E+00	2.0356E+00
U			

P1 = 2.00E+04 N/SQ-M, US1= 1.30E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6276E+02	1.0356E+03	1.6986E+03
T	1.6365E+01	2.3959E+01	2.9607E+01
RHO	8.3621E+00	3.1306E+01	3.9073E+01
M	3.0305E+01	5.1708E+01	6.6322E+01
A	4.0543E+00	5.5116E+00	6.6354E+00
H	1.3927E+00	1.4480E+00	1.5042E+00
S	1.1852E+00	1.3937E+00	1.4990E+00
Z	8.4462E-01	9.1829E-01	9.8385E-01
GAGE	9.8646E+00	2.6334E+00	2.7762E+00
U			

P1 = 2.00E+04 N/SQ-M, US1= 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.3795E+01	4.7795E+02	7.8386E+02
T	1.2995E+01	2.7460E+01	2.0092E+01
RHO	6.8248E+00	2.3583E+01	3.1461E+01
M	1.8215E+01	2.9995E+01	3.8125E+01
A	3.3902E+00	4.1677E+00	4.6763E+00
H	1.2842E+00	1.3181E+00	1.3606E+00
S	1.0599E+00	1.1608E+00	1.2400E+00
Z	9.3639E-01	8.5705E-01	8.7768E-01
GAGE	7.3567E+00	2.1280E+00	2.0356E+00
U			

P1 = 2.00E+04 N/SQ-M, US1= 1.30E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6276E+02	1.0356E+03	1.6986E+03
T	1.6365E+01	2.3959E+01	2.9607E+01
RHO	8.3621E+00	3.1306E+01	3.9073E+01
M	3.0305E+01	5.1708E+01	6.6322E+01
A	4.0543E+00	5.5116E+00	6.6354E+00
H	1.3927E+00	1.4480E+00	1.5042E+00
S	1.1852E+00	1.3937E+00	1.4990E+00
Z	8.4462E-01	9.1829E-01	9.8385E-01
GAGE	9.8646E+00	2.6334E+00	2.7762E+00
U			

P1 = 2.00E+04 N/SQ-M, US1= 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.3795E+01	4.7795E+02	7.8386E+02
T	1.2995E+01	2.7460E+01	2.0092E+01
RHO	6.8248E+00	2.3583E+01	3.1461E+01
M	1.8215E+01	2.9995E+01	3.8125E+01
A	3.3902E+00	4.1677E+00	4.6763E+00
H	1.2842E+00	1.3181E+00	1.3606E+00
S	1.0599E+00	1.1608E+00	1.2400E+00
Z	9.3639E-01	8.5705E-01	8.7768E-01
GAGE	7.3567E+00	2.1280E+00	2.0356E+00
U			

P1 = 2.00E+04 N/SQ-M, US1= 1.30E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6276E+02	1.0356E+03	1.6986E+03
T	1.6365E+01	2.3959E+01	2.9607E+01
RHO	8.3621E+00	3.1306E+01	3.9073E+01
M	3.0305E+01	5.1708E+01	6.6322E+01
A	4.0543E+00	5.5116E+00	6.6354E+00
H	1.3927E+00	1.4480E+00	1.5042E+00
S	1.1852E+00	1.3937E+00	1.4990E+00
Z	8.4462E-01	9.1829E-01	9.8385E-01
GAGE			

P1 = 2.00E+04 N/50-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.147E+02	6.428E+02	1.043E+03
T	1.413E+01	1.944E+01	2.260E+01
RHO	7.401E+00	2.691E+01	3.476E+01
M	2.189E+01	3.661E+01	4.643E+01
A	3.598E+00	4.563E+00	5.194E+00
S	1.319E+00	1.361E+00	1.402E+00
Z	1.094E+00	1.227E+00	1.324E+00
GAME	8.3510E-01	8.7191E-01	9.020E-01
U	8.700E+00	2.2544E+00	2.217E+00

SPECIES	MOLE FRACTIONS
E-	7.121E-09
ME	3.191E-01
ME+	1.831E-20
ME++	4.9621E-75
H	1.763E-01
M+	7.121E-09
M2	5.045E-01
	1.013E-06
	2.848E-01
	4.320E-15
	2.788E-55
	3.722E-01
	1.013E-06
	3.428E-01
	7.246E-06
	2.647E-01
	4.756E-13
	1.425E-47
	4.887E-01
	7.246E-06
	2.467E-01

P1 = 2.00E+04 N/50-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.377E+02	8.308E+02	1.341E+03
T	1.525E+01	2.157E+01	2.563E+01
RHO	7.915E+00	2.954E+01	3.707E+01
M	2.592E+01	4.381E+01	5.478E+01
A	3.819E+00	5.037E+00	5.820E+00
S	1.355E+00	1.406E+00	1.456E+00
Z	1.140E+00	1.303E+00	1.411E+00
GAME	9.383E-01	8.919E-01	9.361E-01
U	9.036E+00	2.420E+00	2.452E+00

SPECIES	MOLE FRACTIONS
E-	3.287E-09
ME	3.070E-01
ME+	5.511E-19
ME++	2.927E-73
H	1.763E-01
M+	3.287E-09
M2	4.472E-01
	4.295E-06
	2.685E-01
	1.224E-13
	9.437E-50
	4.653E-01
	4.295E-06
	2.661E-01
	3.193E-05
	2.479E-01
	1.532E-11
	4.484E-42
	5.433E-01
	3.193E-05
	1.687E-01

P1 = 2.00E+04 N/50-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.896E+02	1.269E+03	2.083E+03
T	1.749E+01	2.676E+01	3.525E+01
RHO	8.719E+00	3.205E+01	3.762E+01
M	3.502E+01	6.005E+01	7.831E+01
A	4.305E+00	6.095E+00	7.576E+00
S	1.430E+00	1.490E+00	1.551E+00
Z	1.243E+00	1.458E+00	1.548E+00
GAME	8.534E-01	9.528E-01	1.037E-01
U	1.088E+01	2.903E+00	3.215E+00

SPECIES	MOLE FRACTIONS
E-	3.748E-07
ME	2.615E-01
ME+	1.307E-16
ME++	4.425E-61
H	3.913E-01
M+	3.748E-07
M2	3.271E-01
	5.591E-05
	2.425E-01
	4.910E-11
	3.491E-40
	6.270E-01
	5.591E-05
	1.326E-01
	6.906E-04
	2.230E-01
	3.617E-08
	7.231E-01
	6.906E-04
	5.236E-02

P1 = 2.00E+04 N/50-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.183E+02	1.462E+03	2.520E+03
T	1.967E+01	3.023E+01	4.295E+01
RHO	8.982E+00	3.171E+01	3.645E+01
M	4.002E+01	6.992E+01	9.178E+01
A	4.585E+00	6.778E+00	8.541E+00
S	1.469E+00	1.531E+00	1.594E+00
Z	1.301E+00	1.524E+00	1.613E+00
GAME	8.650E-01	9.964E-01	1.055E-01
U	1.149E+01	3.253E+00	3.753E+00

SPECIES	MOLE FRACTIONS
E-	1.064E-06
ME	2.695E-01
ME+	1.366E-15
ME++	2.964E-54
H	4.633E-01
M+	1.064E-06
M2	2.672E-01
	1.937E-04
	2.295E-01
	9.318E-10
	2.534E-35
	6.377E-01
	1.937E-04
	8.233E-02
	3.044E-03
	2.169E-01
	8.131E-07
	1.547E-24
	7.515E-01
	3.043E-03
	2.551E-02

Table I. - Continued

 $P_1 = 20 \text{ kN/m}^2$

P1 = 2.00E+04 N/SQ-M, US1= 1.60E+04 M/SEC					P1 = 2.00E+04 N/SQ-M, US1= 1.90E+04 M/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	
E-	2.8703E-06	6.6246E-04	2.4997E+02	1.6617E+03	2.9703E+03	3.4940E+02	2.1315E+03	4.1084E+03	
ME	2.5691E-01	2.2196E-01	1.9966E+01	3.4618E+01	5.1062E+01	2.5387E+01	5.1222E+01	7.1140E+01	
ME+	1.3807E-14	1.7371E-08	9.1456E+03	3.0440E+01	3.5427E+01	8.9144E+00	2.5189E+01	3.3458E+01	
ME++	1.6037E-53	1.1349E-30	4.5497E+01	7.8005E+01	1.0608E+02	6.3707E+01	1.0750E+02	1.5013E+02	
M	5.3252E-01	7.2968E-01	4.9939E+03	7.5324E+00	9.2924E+00	6.1613E+00	9.2761E+00	1.0839E+01	
M+	2.8733E-06	6.6244E-04	1.5083E+00	1.5694E+00	1.6324E+00	1.6223E+00	1.6679E+00	1.7269E+00	
M2	2.1067E-01	4.7038E-02	1.3629E+00	1.5769E+00	1.6420E+00	1.5439E+00	1.6519E+00	1.7261E+00	
			8.8012E-01	1.0394E+00	1.0277E+00	9.6954E-01	1.0169E+00	9.5672E-01	
			1.2235E+01	3.6489E+00	4.2715E+00	1.4539E+01	5.1426E+00	5.2808E+00	

 $P_1 = 2.00E+04 \text{ N/SQ-M, USI} = 1.60E+04 \text{ M/SEC}$ $P_1 = 2.00E+04 \text{ N/SQ-M, USI} = 1.90E+04 \text{ M/SEC}$

SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.8703E-06	6.6246E-04	2.4997E+02	1.6617E+03	2.9703E+03	3.4940E+02	2.1315E+03	4.1084E+03
ME	2.5691E-01	2.2196E-01	1.9966E+01	3.4618E+01	5.1062E+01	2.5387E+01	5.1222E+01	7.1140E+01
ME+	1.3807E-14	1.7371E-08	9.1456E+03	3.0440E+01	3.5427E+01	8.9144E+00	2.5189E+01	3.3458E+01
H	1.6037E-53	1.1349E-30	4.5497E+01	7.8005E+01	1.0608E+02	6.3707E+01	1.0750E+02	1.5013E+02
M+	5.3252E-01	7.2968E-01	4.9939E+03	7.5324E+00	9.2924E+00	6.1613E+00	9.2761E+00	1.0839E+01
M+	2.8733E-06	6.6244E-04	1.5083E+00	1.5694E+00	1.6324E+00	1.6223E+00	1.6679E+00	1.7269E+00
M2	2.1067E-01	4.7038E-02	1.3629E+00	1.5769E+00	1.6420E+00	1.5439E+00	1.6519E+00	1.7261E+00
			8.8012E-01	1.0394E+00	1.0277E+00	9.6954E-01	1.0169E+00	9.5672E-01
			1.2235E+01	3.6489E+00	4.2715E+00	1.4539E+01	5.1426E+00	5.2808E+00

SPECIES

MOLE FRACTIONS

SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.1719E-05	1.1264E-02	4.9289E-02					
ME	2.2670E-01	2.1186E-01	2.0208E-01					
ME+	1.9180E-11	1.6929E-05	6.9249E-04					
ME++	7.4627E-42	4.3542E-20	5.3797E-14					
H	7.0437E-01	7.5549E-01	6.9412E-01					
M0	6.1719E-05	1.1249E-02	4.8596E-02					
M2	6.8803E-02	1.0121E-02	5.2142E-03					

SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.1719E-05	1.1264E-02	4.9289E-02					
ME	2.2670E-01	2.1186E-01	2.0208E-01					
ME+	1.9180E-11	1.6929E-05	6.9249E-04					
ME++	7.4627E-42	4.3542E-20	5.3797E-14					
H	7.0437E-01	7.5549E-01	6.9412E-01					
M0	6.1719E-05	1.1249E-02	4.8596E-02					
M2	6.8803E-02	1.0121E-02	5.2142E-03					

P1 = 2.00E+04 N/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8502E+02	2.2413E+03	4.3343E+03
T	2.8368E+01	5.6330E+01	7.6257E+01
RHO	8.5605E+00	2.3720E+01	3.2320E+01
M	7.6407E+01	1.1816E+02	1.6844E+02
A	6.7709E+00	9.6742E+00	1.1256E+01
S	1.6572E+00	1.6976E+00	1.7543E+00
Z	1.5888E+00	1.6715E+00	1.7504E+00
GAME	1.0193E+00	9.9049E-01	9.4476E-01
U	1.5224E+01	5.4906E+00	5.4843E+00

SPECIES	MOLE FRACTIONS
E-	2.0011E-04
ME	2.2029E-01
HE+	3.2671E-10
HE++	2.4689E-37
H	7.4061E-01
M+	2.0001E-04
M2	3.8700E-02

P1 = 2.00E+04 N/SQ-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2120E+02	2.3239E+03	4.4657E+03
T	3.2133E+01	6.1386E+01	8.0736E+01
RHO	9.6990E+00	2.2353E+01	3.0957E+01
M	7.7357E+01	1.2919E+02	1.7945E+02
A	7.4266E+00	1.0041E+01	1.1634E+01
S	1.6899E+00	1.7266E+00	1.7857E+00
Z	1.6187E+00	1.6936E+00	1.7926E+00
GAME	1.6804E+00	9.6981E-01	9.3252E-01
U	1.5965E+01	5.7447E+00	5.6480E+00

SPECIES	MOLE FRACTIONS
E-	6.8330E-04
ME	2.1623E-01
HE+	6.4237E-09
HE++	1.2196E-32
H	7.6237E-01
M+	6.8299E-04
M2	2.0039E-02

P1 = 2.00E+04 N/SQ-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8162E+02	1.9401E+03	3.4017E+03
T	2.1428E+01	3.9879E+01	5.8614E+01
RHO	9.1986E+00	2.8643E+01	3.4802E+01
M	5.1244E+01	8.7473E+01	1.2066E+02
A	5.2444E+00	8.2439E+00	9.8664E+00
S	1.5471E+00	1.6044E+00	1.6663E+00
Z	1.4257E+00	1.6109E+00	1.6676E+00
GAME	9.0030E-01	1.0579E+00	9.8590E-01
U	1.3066E+01	4.1911E+00	4.6917E+00

SPECIES	MOLE FRACTIONS
E-	7.6340E-06
ME	2.4549E-01
HE+	1.3444E-13
HE++	6.3441E-50
H	5.9716E-01
M+	7.6340E-06
M2	1.3733E-01

P1 = 2.00E+04 N/SQ-M, US1 = 1.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1463E+02	1.9969E+03	3.7905E+03
T	2.3173E+01	4.5581E+01	6.5284E+01
RHO	9.1284E+00	2.6923E+01	3.4244E+01
M	5.7314E+01	9.7283E+01	1.3536E+02
A	5.6570E+00	9.4175E+00	1.0377E+01
S	1.5853E+00	1.6372E+00	1.6970E+00
Z	1.4874E+00	1.6332E+00	1.6955E+00
GAME	9.2844E-01	1.0444E+00	9.7283E-01
U	1.3815E+01	4.6999E+00	5.0196E+00

SPECIES	MOLE FRACTIONS
E-	2.0513E-05
ME	2.3531E-01
HE+	1.4526E-12
HE++	5.7804E-46
H	6.5311E-01
M+	2.0913E-05
M2	1.0934E-01

$$p_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1 = 2.20E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5859E+02	2.4139E+03	4.5843E+03
T	3.6524E+01	6.5917E+01	9.4946E+01
RHO	7.68764E+00	2.1309E+01	2.9504E+01
M	8.4700E+01	1.4076E+02	1.4072E+02
H	7.9746E+00	1.0398E+01	1.1992E+01
S	1.7188E+00	1.7546E+00	1.8141E+00
A	1.6357E+00	1.7185E+00	1.8277E+00
Z	1.0645E+00	9.5450E-01	9.2738E-01
GAME	1.6491E+01	5.9368E+00	5.7790E+00
U			
SPECIES	-----	MOLE FRACTIONS	-----
E-	2.0540E-03	4.3999E-02	9.9926E-02
HE	2.1319E-01	2.0329E-01	1.8770E-01
HE+	9.3710E-08	3.8170E-04	3.8018E-03
HE++	1.9614E-28	4.4935E-15	2.4088E-11
H	7.7109E-01	7.0490E-01	6.0974E-01
M	2.0559E-03	4.3519E-02	9.6124E-02
M+	1.0817E-02	4.0232E-03	2.7087E-03
M2			

P1 = 2.20E+04 N/50-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9775E+02	2.5267E+03	4.7372E+03
T	4.1132E+01	7.0222E+01	8.8816E+01
RHO	7.3438E+00	2.0605E+01	2.8611E+01
M	9.2334E+01	1.5297E+02	2.0974E+02
A	8.3927E+00	1.0755E+01	1.2346E+01
S	1.7454E+03	1.7813E+00	1.8416E+00
Z	1.6478E+02	1.7463E+00	1.8444E+00
GAME	1.0392E+02	9.4323E-01	9.2055E-01
U	1.7124E+01	6.0996E+00	5.9120E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	5.1600E-03	5.8329E-02	1.1723E-01
HE	2.1240E-01	1.9964E-01	1.8212E-01
ME	8.5917E-07	7.6441E-04	5.6079E-03
HE+	5.6733E-25	5.3669E-14	9.9599E-11
H	7.7395E-01	6.8047E-01	5.8114E-01
M+	5.1071E-03	5.7564E-02	1.1142E-01
M2	6.4339E-03	3.2101E-03	2.2530E-03

P1 = 2.80E+04 N/50-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.3924E+02	2.6747E+03	4.9514E+03
T	4.5624E+01	7.4437E+01	9.2748E+01
RHC	7.1191E+00	2.3234E+01	2.8062E+01
M	1.0333E+02	1.6595E+02	2.2605E+02
A	9.7289E+00	1.1115E+01	1.2705E+01
S	1.7703E+03	1.8068E+03	1.8682E+03
Z	1.6402E+03	1.7766E+03	1.9024E+03
GAME	1.5059E+03	9.3444E-01	9.1455E-01
U	1.7781E+01	6.2535E+00	6.3365E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.6005E-02	7.3883E-02	1.3457E-01
HE	2.1281E-01	1.9563E-01	1.7609E-01
ME	4.9712E-06	1.3914E-03	7.8905E-03
HE+	2.9349E-22	4.5103E-13	3.5603E-10
H	7.6413E-01	6.5397E-01	5.5296E-01
M+	1.0402E-02	7.2502E-02	1.2668E-01
M2	4.2519E-03	2.6336E-03	1.9049E-03

P1 = 2.00E+04 N/50-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3013E+02	3.0926E+03	5.6079E+03
T	5.3592E+01	9.2623E+01	1.0096E+02
RHO	6.9497E+00	2.0299E+01	2.8040E+01
M	1.1746E+02	1.9442E+02	2.6212E+02
A	9.3128E+00	1.1852E+01	1.3450E+01
S	1.8153E+00	1.8550E+00	1.9193E+00
Z	1.6919E+00	1.8439E+00	1.9830E+00
GAME	9.5633E-01	9.2203E-01	9.0457E-01
U	1.9186E+01	6.5654E+00	6.3261E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.7127E-02	1.0705E-01	1.6933E-01
HE	2.0682E-01	1.8619E-01	1.6242E-01
ME	5.2021E-05	3.6212E-03	1.4089E-02
HE+	1.4643E-18	1.5289E-11	3.4106E-09
H	7.3654E-01	5.9781E-01	4.9749E-01
M+	2.7075E-02	1.0343E-01	1.5524E-01
M2	2.3835E-03	1.8875E-03	1.4242E-03

P1 = 2.00E+04 N/50-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7931E+02	3.3494E+03	6.3172E+03
T	5.7179E+01	8.6662E+01	1.0494E+02
RHC	6.9403E+00	2.0554E+01	2.8321E+01
M	1.2659E+02	2.0985E+02	2.8156E+02
A	9.5987E+00	1.2223E+01	1.3835E+01
S	1.8367E+03	1.8784E+03	1.9441E+03
Z	1.7118E+03	1.8803E+03	2.0246E+03
GAME	9.4131E-01	9.1686E-01	9.0085E-01
U	1.9919E+01	6.7277E+00	6.4663E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.9011E-02	1.2412E-01	1.9627E-01
HE	2.0439E-01	1.9076E-01	1.5498E-01
ME	1.2177E-04	5.3762E-07	1.7995E-02
HE+	3.1338E-17	6.6884E-11	9.1301E-09
H	7.1772E-01	5.6933E-01	4.7124E-01
M+	3.7889E-02	1.1174E-01	1.6837E-01
M2	1.9150E-03	1.6305E-03	1.2492E-03

Table I. - Continued

$$P_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1 = 2.90E+04 M/SEC				P1 = 2.00E+04 N/SQ-M, US1 = 3.20E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	5.0063E-02	1.4102E-01	2.0280E-01	E-	1.0463E-01	2.0606E-01	2.1151E-01
HE	2.0159E-01	1.7492E-01	1.4723E-01	HE	1.8833E-01	1.4766E-01	1.1530E-01
HE+	2.4463E-04	7.5890E-03	2.2090E-02	HE+	1.7711E-03	2.0940E-02	4.0647E-02
HE++	4.0051E-16	2.4690E-10	2.2611E-08	HE++	5.1714E-13	1.4906E-08	4.6746E-07
H	6.9670E-01	5.4161E-01	4.4592E-01	H	6.3150E-01	4.3933E-01	3.5331E-01
H+	4.9816E-02	1.3343E-01	1.8079E-01	H+	1.0288E-01	1.8512E-01	2.2486E-01
H2	1.5837E-03	1.4245E-03	1.1021E-03	H2	8.6194E-04	8.6179E-04	6.7834E-04
P	7.3084E+02	3.6337E+03	6.4739E+03	P	9.5918E+02	5.0145E+03	8.6922E+03
T	6.0544E+01	9.0625E+01	1.0907E+02	T	7.2545E+01	1.0613E+02	1.2619E+02
RMD	9.9409E+00	2.0908E+01	2.9715E+01	RMD	7.1815E+00	2.2761E+01	3.0691E+01
M	1.3608E+02	2.2602E+02	3.0196E+02	M	1.7745E+02	2.9786E+02	3.9269E+02
A	9.8843E+00	1.2590E+01	1.4230E+01	A	1.1024E+01	1.4327E+01	1.5970E+01
S	1.8576E+00	1.9013E+00	1.9688E+00	S	1.5386E+00	1.9919E+00	2.0672E+00
Z	1.7341E+00	1.9177E+00	2.0671E+00	Z	1.8411E+00	2.0759E+00	2.2444E+00
GAME	9.3054E-01	9.1210E-01	8.9817E-01	GAME	9.0999E-01	8.9817E-01	9.0054E-01
U	2.0667E+01	6.8780E+00	6.8133E+00	U	2.3741E+01	7.4115E+00	7.2526E+00

P1 = 2.00E+04 N/50-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.6458E+02	3.9431E+03	6.9711E+03
T	6.3735E+01	9.4548E+01	1.1323E+02
RMC	7.0008E+00	2.1315E+01	2.9175E+01
M	1.4593E+02	2.4291E+02	3.2326E+02
A	1.0170E+01	1.2937E+01	1.4637E+01
S	1.0782E+00	1.9241E+00	1.9934E+00
Z	1.7584E+00	1.9562E+00	2.1103E+00
GAME	9.2284E-01	9.0776E-01	8.9649E-01
U	2.1423E+01	7.0326E+00	6.7640E+00

SPECIES	MOLE FRACTIONS	
E-	6.2975E-02	1.5778E-01
ME	1.9860E-01	1.6643E-01
ME+	4.4870E-04	1.0287E-02
ME++	3.4907E-15	6.0325E-10
M	6.7412E-01	5.1455E-01
M+	6.2528E-02	1.4750E-01
M2	1.3363E-03	1.2536E-03

P1 = 2.00E+04 N/50-M, US1 = 3.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4069E+02	4.2786E+03	7.9081E+03
T	6.6782E+01	9.8641E+01	1.1745E+02
RMC	7.0544E+00	2.1780E+01	2.9678E+01
M	1.5815E+02	2.6055E+02	3.4543E+02
A	1.0455E+01	1.3325E+01	1.5060E+01
S	1.0980E+00	1.9468E+00	2.0179E+00
Z	1.7845E+00	1.9956E+00	2.1541E+00
GAME	9.1725E-01	9.2389E-01	8.9652E-01
U	2.2192E+01	7.1846E+00	6.9115E+00

SPECIES	MOLE FRACTIONS	
E-	7.6599E-02	1.7429E-01
ME	1.9539E-01	1.6194E-01
ME+	5.5275E-04	1.3451E-02
ME++	2.2914E-14	2.3343E-09
M	6.5046E-01	4.8840E-01
M+	7.5756E-02	1.6093E-01
M2	1.1438E-03	1.0109E-03

P1 = 2.00E+04 N/50-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0840E+03	5.8316E+03	1.0010E+04
T	7.7994E+01	1.1378E+02	1.3549E+02
RMC	7.3203E+00	2.3748E+01	3.1605E+01
M	2.0057E+02	1.5780E+02	4.4356E+02
A	1.1587E+01	1.4836E+01	1.6584E+01
S	1.5784E+00	2.6371E+00	2.1166E+00
Z	1.9023E+00	2.1582E+00	2.3378E+00
GAME	9.0572E-01	9.9659E-01	9.1076E-01
U	2.5332E+01	7.7933E+00	7.6246E+00

SPECIES	MOLE FRACTIONS	
E-	1.3330E-01	2.3617E-01
ME	1.8047E-01	1.3250E-01
ME+	3.5131E-03	2.9483E-02
ME++	6.4485E-12	7.1152E-09
M	5.5226E-01	3.9426E-01
M+	1.2979E-01	2.5669E-01
M2	6.6531E-04	7.0649E-04

P1 = 2.00E+04 N/50-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2216E+03	6.7211E+03	1.1470E+04
T	9.3199E+01	1.2153E+02	1.4589E+02
RMC	7.4614E+00	2.6667E+01	3.2330E+01
M	2.2454E+02	3.8326E+02	4.9853E+02
A	1.2144E+01	1.5644E+01	1.8136E+01
S	2.0318E+00	2.0822E+00	2.1682E+00
Z	1.9674E+00	2.2423E+00	2.4352E+00
GAME	9.3112E-01	8.9836E-01	9.2707E-01
U	2.6876E+01	8.1222E+00	8.0653E+00

SPECIES	MOLE FRACTIONS	
E-	1.6170E-01	2.6462E-01
ME	1.7176E-01	1.1772E-01
ME+	6.1607E-03	3.8307E-02
ME++	5.2919E-11	2.7521E-07
M	5.0437E-01	3.5247E-01
M+	1.5523E-01	2.2623E-01
M2	5.2040E-04	5.6520E-04

$$p_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1= 3.00E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3642E+03	7.0754E+03	1.3072E+04
T	8.8241E+01	1.2954E+02	1.5707E+02
RMO	7.5992E+00	2.5450E+01	3.2830E+01
M	2.5063E+02	4.2515E+02	5.5773E+02
A	1.2654E+01	1.6522E+01	1.9436E+01
S	2.0577E+00	2.1272E+00	2.2155E+00
Z	2.0343E+00	2.3275E+00	2.5351E+00
GAME	8.9745E-01	9.0537E-01	9.4870E-01
U	2.8442E+01	8.4881E+00	8.5748E+00

P1 = 2.00E+04 N/SQ-M, US1= 4.43E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0841E+03	1.0842E+04	1.0816E+04
T	1.0282E+02	1.5683E+02	2.0276E+02
RMC	7.9740E+00	2.6877E+01	3.2705E+01
M	3.3622E+02	5.7349E+02	7.6472E+02
A	1.4345E+01	1.9679E+01	2.4243E+01
S	3.1772E+00	2.2603E+00	2.3626E+00
Z	2.2461E+00	2.5917E+00	2.8175E+00
GAME	9.6142E-01	9.5292E-01	1.0215E+00
U	3.3167E+01	9.9112E+00	1.0692E+00

P1 = 2.00E+04 N/SQ-M, US1= 6.43E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0841E+03	1.0842E+04	1.0816E+04
T	1.0282E+02	1.5683E+02	2.0276E+02
RMC	7.9740E+00	2.6877E+01	3.2705E+01
M	3.3622E+02	5.7349E+02	7.6472E+02
A	1.4345E+01	1.9679E+01	2.4243E+01
S	3.1772E+00	2.2603E+00	2.3626E+00
Z	2.2461E+00	2.5917E+00	2.8175E+00
GAME	9.6142E-01	9.5292E-01	1.0215E+00
U	3.3167E+01	9.9112E+00	1.0692E+00

P1 = 2.00E+04 N/SQ-M, US1= 6.43E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0841E+03	1.0842E+04	1.0816E+04
T	1.0282E+02	1.5683E+02	2.0276E+02
RMC	7.9740E+00	2.6877E+01	3.2705E+01
M	3.3622E+02	5.7349E+02	7.6472E+02
A	1.4345E+01	1.9679E+01	2.4243E+01
S	3.1772E+00	2.2603E+00	2.3626E+00
Z	2.2461E+00	2.5917E+00	2.8175E+00
GAME	9.6142E-01	9.5292E-01	1.0215E+00
U	3.3167E+01	9.9112E+00	1.0692E+00

P1 = 2.00E+04 N/SQ-M, US1= 6.43E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0841E+03	1.0842E+04	1.0816E+04
T	1.0282E+02	1.5683E+02	2.0276E+02
RMC	7.9740E+00	2.6877E+01	3.2705E+01
M	3.3622E+02	5.7349E+02	7.6472E+02
A	1.4345E+01	1.9679E+01	2.4243E+01
S	3.1772E+00	2.2603E+00	2.3626E+00
Z	2.2461E+00	2.5917E+00	2.8175E+00
GAME	9.6142E-01	9.5292E-01	1.0215E+00
U	3.3167E+01	9.9112E+00	1.0692E+00

P1 = 2.00E+04 N/SQ-M, US1= 6.43E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0841E+03	1.0842E+04	1.0816E+04
T	1.0282E+02	1.5683E+02	2.0276E+02
RMC	7.9740E+00	2.6877E+01	3.2705E+01
M	3.3622E+02	5.7349E+02	7.6472E+02
A	1.4345E+01	1.9679E+01	2.4243E+01
S	3.1772E+00	2.2603E+00	2.3626E+00
Z	2.2461E+00	2.5917E+00	2.8175E+00
GAME	9.6142E-01	9.5292E-01	1.0215E+00
U	3.3167E+01	9.9112E+00	1.0692E+00

P1 = 2.00E+04 N/SQ-M, US1= 6.43E+04 W/SEC			
	MOVING SHOCK		

P1 = 2.00E+04 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5154E+03	8.6896E+03	1.4827E+04
T	9.3165E+01	1.3793E+02	1.7020E+02
RHO	7.7322E+00	2.6100E+01	3.3017E+01
M	2.7776E+02	4.7262E+02	6.2159E+02
A	1.3241E+01	1.7673E+01	2.0916E+01
S	2.0974E+00	2.1716E+00	2.2654E+00
Z	2.1036E+00	2.4130E+00	2.6385E+00
GAME	8.9645E-01	9.1703E-01	9.7417E-01
U	3.0017E+01	8.8948E+00	9.1745E+00

SPECIES	MOLE FRACTIONS	
E-	2.1595E-01	3.1679E-01
HE	1.5174E-01	9.0142E-02
HE+	1.4645E-02	5.4853E-02
ME++	1.5062E-09	2.7309E-06
M	4.1604E-01	2.7594E-01
H+	2.0130E-01	2.6193E-01
M2	3.2677E-04	3.6735E-04

P1 = 2.00E+04 N/50-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6745E+03	9.7459E+03	1.6756E+04
T	9.9031E+01	1.4702E+02	1.4932E+02
RHO	7.8547E+00	2.6485E+01	3.2954E+01
M	3.0429E+02	5.2199E+02	6.0059E+02
A	1.3793E+01	1.8532E+01	2.2534E+01
S	2.1375E+00	2.2165E+00	2.3166E+00
Z	2.1747E+00	2.5030E+00	2.7405E+00
GAME	8.9243E-01	9.3245E-01	1.0000E+00
U	3.1592E+01	9.3649E+00	9.8854E+00

SPECIES	MOLE FRACTIONS	
E-	2.1153E-01	3.4105E-01
HE	1.4018E-01	7.8081E-02
HE+	2.067E-02	6.1743E-02
ME++	5.9354E-09	7.6699E-06
M	3.7621E-01	2.3956E-01
H+	2.2136E-01	2.7933E-01
M2	2.6038E-04	2.6033E-04

P1 = 2.00E+04 N/50-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0164E+03	1.1957E+04	2.1030E+04
T	1.0759E+02	1.6759E+02	2.2243E+02
RHO	8.0771E+00	2.6628E+01	3.2318E+01
M	3.6754E+02	6.2708E+02	8.4368E+02
A	1.4924E+01	2.0914E+01	2.5915E+01
S	2.2172E+00	2.3034E+00	2.4092E+00
Z	2.3196E+00	2.6796E+00	2.9255E+00
GAME	8.9212E-01	9.7442E-01	1.0321E+00
U	3.4739E+01	1.0529E+01	1.1569E+01

SPECIES	MOLE FRACTIONS	
E-	2.8865E-01	3.8436E-01
HE	1.1641E-01	5.8633E-02
HE+	3.4313E-02	7.1932E-02
ME++	5.5233E-09	5.1877E-05
M	3.0392E-01	1.7254E-01
H+	2.5434E-01	3.1233E-01
M2	1.6640E-04	1.3136E-04

P1 = 2.00E+04 N/50-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1988E+03	1.3075E+04	2.3351E+04
T	1.1259E+02	1.7931E+02	2.4360E+02
RHO	8.1639E+00	2.6382E+01	3.1533E+01
M	4.0024E+02	6.9251E+02	9.2677E+02
A	1.5524E+01	2.2217E+01	2.7406E+01
S	2.2593E+00	2.3451E+00	2.4536E+00
Z	2.3928E+00	2.7643E+00	3.0019E+00
GAME	8.9475E-01	9.9595E-01	1.0271E+00
U	3.6303E+01	1.1224E+01	1.2466E+01

SPECIES	MOLE FRACTIONS	
E-	3.1054E-01	4.4312E-01
HE	1.0538E-01	5.1039E-02
HE+	1.1898E-02	7.5493E-02
ME++	1.6241E-07	1.2774E-06
M	2.7638E-01	1.4279E-01
H+	2.6866E-01	3.2737E-01
M2	1.3211E-04	8.7864E-05

Table I. - Continued

 $p_1 = 20 \text{ kN/m}^2$

$p_1 = 2.00E+04 \text{ N/SQ-M, US1= 5.00E+04 M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.388E+03	1.4179E+04	2.572E+04
T	1.1761E+02	1.9203E+02	2.651E+02
RHO	8.2364E+00	2.5974E+01	3.1616E+01
M	4.343E+02	7.3963E+02	1.0125E+03
A	1.6157E+01	2.3538E+01	2.8683E+01
S	2.2974E+00	2.3931E+00	2.4940E+00
Z	2.4674E+00	2.8426E+00	3.0685E+00
GAME	8.9961E-01	1.0149E+00	1.0113E+00
U	3.783E+01	1.2001E+01	1.3313E+01
SPECIES ----- MOLE FRACTIONS -----			
E-	3.3138E-01	4.1961E-01	4.6229E-01
HE	5.2297E-02	4.4546E-02	2.8780E-02
HE+	4.9553E-02	7.8276E-02	7.8616E-02
HE++	4.1232E-07	3.3271E-04	6.6467E-03
H	2.4484E-01	1.1648E-01	5.3295E-02
H+	2.8142E-01	3.4073E-01	3.7034E-01
H2	3.0388E-04	5.6813E-05	1.3607E-05

$p_1 = 2.00E+04 \text{ N/SQ-M, US1= 5.60E+04 M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9981E+03	1.7316E+04	3.2731E+04
T	1.3447E+02	2.3660E+02	3.2570E+02
RHO	8.2764E+00	2.4079E+01	3.1041E+01
M	5.4463E+02	9.2075E+02	1.2810E+03
A	1.8352E+01	2.7186E+01	3.2251E+01
S	2.4168E+00	2.5001E+00	2.6110E+00
Z	2.6937E+00	3.0393E+00	3.2375E+00
GAME	9.2977E-01	1.0278E+00	9.8640E-01
U	4.2434E+01	1.4575E+01	1.5419E+01
SPECIES ----- MOLE FRACTIONS -----			
E-	3.8751E-01	4.5713E-01	4.9035E-01
HE	5.9409E-02	2.9383E-02	1.5844E-02
HE+	7.0516E-02	8.2643E-02	6.5016E-02
HE++	5.2769E-06	3.1321E-03	2.4449E-02
H	1.6552E-01	5.9486E-02	2.9902E-02
H+	3.1639E-01	3.6822E-01	3.7164E-01
H2	4.5297E-05	1.3300E-05	4.2285E-06

P1 = 2.00E+04 N/50-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2132E+03	1.8284E+04	3.4914E+04
T	1.4110E+02	2.5234E+02	3.4580E+02
RHC	8.2279E+00	2.3442E+01	3.0483E+01
M	5.8404E+02	9.8460E+02	1.3752E+03
A	1.9223E+01	2.8128E+01	3.3604E+01
S	2.4565E+00	2.5360E+00	2.6480E+00
Z	2.7644E+03	3.0910E+03	3.2904E+03
GAME	9.4563E-01	1.0144E+00	9.9230E-01
U	4.3911E+01	1.5389E+01	1.6004E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.0424E-01	4.6619E-01	4.9857E-01
HE	5.0072E-02	2.5363E-02	1.2287E-02
ME+	7.6295E-02	8.2047E-02	5.9344E-02
ME++	1.2305E-05	5.8235E-03	3.4733E-02
H	1.6142E-01	4.8045E-02	2.5303E-02
M+	3.2792E-01	1.7250E-01	3.6974E-01
M2	3.2302E-05	8.3982E-06	3.0148E-06

P1 = 2.00E+04 N/50-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4338E+03	1.6235E+04	3.7040E+04
T	1.4924E+02	2.6771E+02	3.6632E+02
RHC	8.1519E+00	2.2897E+01	3.0272E+01
M	6.2476E+02	1.0502E+03	1.4718E+03
A	2.0148E+01	2.8977E+01	3.5048E+01
S	2.4943E+00	2.5705E+00	2.6835E+00
Z	2.8412E+00	3.1379E+00	3.3403E+00
GAME	9.6371E-01	9.9953E-01	1.0039E+00
U	4.5364E+01	1.6163E+01	1.6730E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.1928E-01	4.7418E-01	5.0603E-01
HE	4.2044E-02	2.1763E-02	9.2682E-03
ME+	8.1116E-02	8.7029E-02	5.2633E-02
ME++	2.6783E-05	9.7462E-03	4.2881E-02
H	1.1939E-01	3.9613E-02	2.1549E-02
M+	3.3811E-01	3.7466E-01	3.4764E-01
M2	2.2311E-05	5.5513E-06	2.1751E-06

P1 = 2.00E+04 N/50-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5848E+03	1.5245E+04	2.8373E+04
T	1.2294E+02	2.0610E+02	2.8583E+02
RHC	8.2659E+00	2.5361E+01	3.1403E+01
M	4.6972E+02	7.9832E+02	1.1002E+03
A	1.6042E+01	2.4868E+01	2.9838E+01
S	2.3391E+00	2.4252E+00	2.5356E+00
Z	2.5437E+00	2.9166E+00	3.1274E+00
GAME	9.0763E-01	1.0287E+00	9.9591E-01
U	3.9397E+01	1.2831E+01	1.4088E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.5141E-01	4.3431E-01	4.7245E-01
HE	8.0488E-02	3.8789E-02	2.4070E-02
ME+	5.7139E-02	9.0511E-02	7.5882E-02
ME++	1.0056E-06	7.0321E-04	1.1954E-02
H	2.1642E-01	9.3269E-02	4.2972E-02
M+	2.9430E-01	3.5239E-01	3.7264E-01
M2	8.0152E-05	3.5139E-05	8.7711E-06

P1 = 2.00E+04 N/50-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7884E+03	1.6302E+04	3.0455E+04
T	1.2047E+02	2.2106E+02	3.0611E+02
RHC	8.2900E+00	2.4733E+01	3.1248E+01
M	5.0851E+02	9.5973E+02	1.1900E+03
A	1.7562E+01	2.6100E+01	3.1019E+01
S	2.3773E+00	2.4632E+00	2.5741E+00
Z	2.6182E+00	2.9817E+00	3.1839E+00
GAME	9.1655E-01	1.0335E+00	9.9744E-01
U	4.0927E+01	1.3710E+01	1.4796E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.6947E-01	4.4565E-01	4.8178E-01
HE	6.9617E-02	3.3817E-02	1.9729E-02
ME+	6.4068E-02	8.2325E-02	7.1410E-02
ME++	2.3175E-06	1.5375E-03	1.8749E-02
H	1.9043E-01	7.4399E-02	3.5490E-02
M+	3.6579E-01	3.6155E-01	3.7280E-01
M2	6.1176E-05	2.1566E-05	5.9662E-06

Table I. - Continued

$$P_1 = 20 \text{ KN/m}^2$$

P1 = 2.00E+04 N/50-M, US1 = 6.20E+04 M/SEC				P1 = 2.00E+04 N/50-M, US1 = 6.80E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.3317E-01	4.8188E-01	5.1308E-01	E-	4.6521E-01	5.0235E-01	5.2929E-01
HE	3.5209E-02	1.8337E-02	6.4467E-03	HE	2.0166E-02	1.0043E-02	1.8992E-03
ME+	8.5173E-02	7.8477E-02	4.5651E-02	ME+	5.2557E-02	6.0044E-02	2.7109E-02
ME++	6.0741E-05	1.5091E-02	5.0988E-02	ME++	7.1951E-04	3.5675E-02	7.0949E-02
H	5.8698E-02	3.2996E-02	1.8175E-02	H	5.0135E-02	2.0726E-02	1.0382E-02
H+	3.4798E-01	3.7522E-01	3.6546E-01	H+	3.7121E-01	3.7136E-01	3.6049E-01
H2	1.4843E-05	3.7553E-06	1.5286E-06	H2	3.3853E-06	1.3963E-06	4.6634E-07
P	3.6600E+03	2.0164E+04	3.9031E+04	P	4.3639E+03	2.2632E+04	4.4273E+04
T	1.5634E+02	2.8322E+02	3.8873E+02	T	1.8676E+02	3.2739E+02	4.6945E+02
RMO	8.0424E+00	2.2357E+01	2.9632E+01	RMC	7.5734E+00	2.0951E+01	2.6904E+01
M	6.6879E+02	1.1193E+03	1.5719E+03	M	8.0027E+02	1.3324E+03	1.8930E+03
A	2.1162E+01	2.9843E+01	3.6662E+01	A	2.4448E+01	3.2691E+01	4.2202E+01
S	2.5319E+00	2.6259E+00	2.7199E+00	S	2.6378E+00	2.7061E+00	2.8263E+00
Z	2.9108E+00	3.1846E+00	3.3887E+00	Z	3.0953E+00	3.3156E+00	3.5053E+00
GAME	9.8404E-01	9.8744E-01	1.0204E+00	GAME	1.0373E+00	9.8396E-01	1.0823E+00
U	4.6792E+01	1.6823E+01	1.7436E+01	U	5.0873E+01	1.9467E+01	1.9917E+01

P1 = 2.00E+04 N/SEC US1 = 7.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.606E+03	2.334E+04	4.588E+04
T	1.909E+02	3.421E+02	5.022E+02
RHO	7.397E+00	2.030E+01	2.586E+01
M	8.472E+02	1.406E+03	2.008E+03
A	2.548E+01	3.376E+01	4.417E+01
S	2.679E+00	2.738E+00	2.840E+00
Z	3.129E+00	3.337E+00	3.532E+00
GAME	1.039E+00	9.920E-01	1.099E+00
U	5.216E+01	1.899E+01	2.092E+01

SPECIES	MOLE FRACTIONS
E-	5.084E-01
ME	7.870E-03
ME+	5.360E-02
ME++	4.278E-02
H	1.793E-02
M0	3.693E-01
M2	1.023E-06

P1 = 2.00E+04 N/SEC US1 = 6.40E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.889E+03	2.103E+04	4.095E+04
T	1.654E+02	2.978E+02	4.130E+02
RHO	7.897E+00	2.188E+01	2.881E+01
M	7.136E+02	1.199E+03	1.675E+03
A	2.225E+01	3.071E+01	3.841E+01
S	2.569E+00	2.639E+00	2.754E+00
Z	2.576E+00	3.228E+00	3.433E+00
GAME	1.032E+00	9.910E-01	1.040E+00
U	4.817E+01	1.737E+01	1.826E+01

SPECIES	MOLE FRACTIONS
E-	4.450E-01
ME	2.901E-02
ME+	8.843E-02
ME++	1.394E-04
H	7.984E-02
M0	3.569E-01
M2	9.347E-06

P1 = 2.00E+04 N/SEC US1 = 6.60E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.124E+03	2.194E+04	4.262E+04
T	1.755E+02	3.123E+02	4.402E+02
RHO	7.742E+00	2.137E+01	2.787E+01
M	7.545E+02	1.259E+03	1.782E+03
A	2.339E+01	3.165E+01	4.030E+01
S	2.603E+00	2.672E+00	2.792E+00
Z	3.034E+00	3.271E+00	3.472E+00
GAME	1.024E+00	9.800E-01	1.062E+00
U	4.533E+01	1.795E+01	1.905E+01

SPECIES	MOLE FRACTIONS
E-	4.562E-01
ME	2.415E-02
ME+	9.057E-02
ME++	3.183E-04
H	6.372E-02
M0	3.647E-01
M2	5.716E-06

Table I. - Continued

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1= 4.00E+03 M/SEC							P1 = 5.00E+04 N/SQ-M, US1= 7.00E+03 M/SEC						
SPECIES	MOVING SHOCK		REFLECTED SHOCK	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK	MOVING SHOCK		REFLECTED SHOCK
	MOLE FRACTIONS				MOLE FRACTIONS								
E-	5.098E-54	1.6511E-35	8.3229E-21	2.3960E-15	2.7657E-11	2.7123E-09	E-	2.3960E-15	2.7657E-11	2.7123E-09	2.3960E-15	2.7657E-11	2.7123E-09
HE	3.5000E-01	3.5000E-01	3.4999E-01	3.4952E-01	3.4505E-01	3.3525E-01	HE	3.4952E-01	3.4505E-01	3.3525E-01	3.4952E-01	3.4505E-01	3.3525E-01
HE+	3.8699E-62	3.7974E-52	3.5573E-43	9.0767E-34	7.6674E-25	2.2669E-20	HE+	9.0767E-34	7.6674E-25	2.2669E-20	9.0767E-34	7.6674E-25	2.2669E-20
HE++	0.	0.	0.	0.	1.0387E-87	8.3015E-73	HE++	0.	1.0387E-87	8.3015E-73	0.	1.0387E-87	8.3015E-73
H	1.9824E-09	2.0366E-07	8.3100E-05	2.7444E-03	2.8252E-02	8.4259E-02	H	2.7444E-03	2.8252E-02	8.4259E-02	2.7444E-03	2.8252E-02	8.4259E-02
H+	8.1343E-20	8.1343E-20	8.9663E-20	2.3960E-15	2.7657E-11	2.7123E-09	H+	2.3960E-15	2.7657E-11	2.7123E-09	2.3960E-15	2.7657E-11	2.7123E-09
H2	6.5000E-01	6.5000E-01	6.4999E-01	6.4773E-01	6.2667E-01	5.9046E-01	H2	6.4773E-01	6.2667E-01	5.9046E-01	6.4773E-01	6.2667E-01	5.9046E-01
P	1.3967E+01	2.8745E+01	7.2768E+01	4.3924E+01	1.4876E+02	2.8757E+02	P	4.3924E+01	1.4876E+02	2.8757E+02	4.3924E+01	1.4876E+02	2.8757E+02
T	3.5541E+00	4.4740E+00	6.5342E+00	9.5181E+00	1.1726E+01	1.4377E+01	T	9.5181E+00	1.1726E+01	1.4377E+01	9.5181E+00	1.1726E+01	1.4377E+01
RHO	3.9293E+00	6.4257E+00	1.1127E+01	5.1494E+00	1.2507E+01	1.9159E+01	RHO	5.1494E+00	1.2507E+01	1.9159E+01	5.1494E+00	1.2507E+01	1.9159E+01
H	3.6325E+00	4.6130E+00	6.9066E+00	9.2951E+00	1.3945E+01	1.9012E+01	H	9.2951E+00	1.3945E+01	1.9012E+01	9.2951E+00	1.3945E+01	1.9012E+01
A	1.8756E+00	2.0903E+00	2.4972E+00	2.8073E+00	3.2272E+00	3.5933E+00	A	2.8073E+00	3.2272E+00	3.5933E+00	2.8073E+00	3.2272E+00	3.5933E+00
S	1.0825E+00	1.0946E+00	1.1067E+00	1.1955E+00	1.2067E+00	1.2378E+00	S	1.1955E+00	1.2067E+00	1.2378E+00	1.1955E+00	1.2067E+00	1.2378E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	1.0014E+00	1.0143E+00	1.0440E+00	Z	1.0014E+00	1.0143E+00	1.0440E+00	1.0014E+00	1.0143E+00	1.0440E+00
GAME	9.8771E-01	9.7644E-01	9.5435E-01	9.2394E-01	8.7563E-01	8.6024E-01	GAME	9.2394E-01	8.7563E-01	8.6024E-01	9.2394E-01	8.7563E-01	8.6024E-01
U	2.5703E+00	1.5703E+00	1.4043E+00	4.8619E+00	2.0005E+00	1.7885E+00	U	4.8619E+00	2.0005E+00	1.7885E+00	4.8619E+00	2.0005E+00	1.7885E+00

P1 = 5.00E+04 N/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2024E+01	5.6075E+01	1.2807E+02
T	4.9880E+00	6.6820E+00	9.3386E+00
RHO	4.4153E+00	8.3913E+00	1.3685E+01
M	5.1726E+00	7.0770E+00	1.0314E+01
A	2.2003E+00	2.5230E+00	2.9304E+00
S	1.1221E+00	1.1269E+00	1.1524E+00
Z	1.0000E+00	1.0001E+00	1.0021E+00
GAME	9.7057E-01	9.5299E-01	9.1744E-01
U	3.3339E+00	1.7532E+00	1.5889E+00

SPECIES	MOLE FRACTIONS		
E-	4.9717E-32	5.3331E-20	2.9390E-14
HE	3.5000E-01	3.4999E-01	3.4927E-01
ME+	3.8321E-50	1.9585E-42	7.1260E-31
HE++	0.	0.	0.
M	2.1028E-06	1.2829E-04	4.1437E-03
M+	8.1343E-20	1.3467E-19	2.9390E-14
M2	6.5000E-01	6.4989E-01	6.4658E-01

P1 = 5.00E+04 N/SQ-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1900E+01	9.4637E+01	1.9880E+02
T	6.6646E+00	9.2084E+00	1.2016E+01
RHO	4.7900E+00	1.0256E+01	1.6299E+01
M	7.0582E+00	1.0163E+01	1.4342E+01
A	2.5182E+00	2.9091E+00	3.2695E+00
S	1.1596E+00	1.1673E+00	1.1954E+00
Z	1.0001E+00	1.0021E+00	1.0150E+00
GAME	9.5218E-01	9.7111E-01	8.7644E-01
U	4.0939E+00	1.9141E+00	1.7095E+00

SPECIES	MOLE FRACTIONS		
E-	7.7331E-20	2.0396E-14	4.3371E-11
HE	3.4997E-01	3.4927E-01	3.4492E-01
ME+	1.1299E-42	3.5093E-31	3.2792E-24
HE++	0.	0.	4.4645E-08
M	1.6406E-04	4.1917E-03	2.9584E-02
M+	1.5867E-19	2.0397E-14	4.3371E-11
M2	6.4986E-01	6.4654E-01	6.2559E-01

P1 = 5.00E+04 N/SQ-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8049E+01	2.2406E+02	4.0482E+02
T	1.0353E+01	1.4029E+01	1.6635E+01
RHO	5.5646E+00	1.5327E+01	2.2370E+01
M	1.1895E+01	1.6475E+01	2.4490E+01
A	3.0392E+00	3.5419E+00	3.9400E+00
S	1.2289E+00	1.2463E+00	1.2811E+00
Z	1.0031E+00	1.0424E+00	1.0879E+00
GAME	9.8506E-01	9.5916E-01	9.6128E-01
U	5.6566E+00	2.0516E+00	1.8734E+00

SPECIES	MOLE FRACTIONS		
E-	1.4818E-12	1.8675E-09	4.5206E-08
HE	3.4719E-01	3.3577E-01	3.2172E-01
ME+	6.2868E-24	8.8631E-21	1.2176E-17
HE++	0.	1.7796E-76	5.1354E-65
M	1.6044E-02	8.1298E-22	1.6163E-01
M+	1.4818E-12	1.8675E-09	4.5206E-08
M2	6.3676E-01	5.8293E-01	5.1668E-01

P1 = 5.00E+04 N/SQ-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.4541E+01	3.2510E+02	5.6161E+02
T	1.1995E+01	1.6199E+01	1.8971E+01
RHO	4.0681E+00	1.8507E+01	2.5852E+01
M	1.4962E+01	2.3735E+01	3.3922E+01
A	3.2677E+00	3.8829E+00	4.3531E+00
S	1.2625E+00	1.2868E+00	1.3257E+00
Z	1.0241E+00	1.0844E+00	1.1451E+00
GAME	9.5961E-01	9.5828E-01	8.7226E-01
U	6.4737E+00	2.1235E+00	1.9875E+00

SPECIES	MOLE FRACTIONS		
E-	9.5550E-11	3.1384E-09	3.9339E-07
HE	3.4476E-01	3.2274E-01	3.0565E-01
ME+	2.2141E-27	4.4343E-18	1.5427E-15
HE++	4.7566E-02	1.4298E-66	9.1630E-57
M	8.5505E-11	1.5574E-01	2.5945E-01
M+	6.1115E-01	3.1384E-09	3.9339E-07
M2	5.2151E-01	5.2151E-01	4.4990E-01

Table I. - Continued

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/50-M, US1 = 1.00E+04 M/SEC				P1 = 5.00E+04 N/50-M, US1 = 1.30E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.3384E-09	2.5994E-07	2.3533E-06	E-	1.9205E-07	2.1790E-05	1.8799E-04
ME	3.3351E-01	3.0764E-01	2.8842E-01	ME	2.9963E-01	2.6133E-01	2.4055E-01
ME+	1.4794E-21	5.0592E-16	8.8628E-14	ME+	7.8477E-17	1.2329E-11	2.2037E-C9
ME++	9.3907E-80	1.4706E-58	3.8836E-50	ME++	6.9507E-62	1.7537E-42	1.0143F-33
H	9.4220E-02	2.4203E-01	3.3190E-01	H	2.8781E-01	5.0662E-01	6.2486E-01
M+	1.3386E-09	2.5994E-07	2.3533E-06	M+	1.9205E-07	2.1790E-05	1.8799E-04
M2	5.7227E-01	4.5032E-01	3.5968E-01	M2	4.1255E-01	2.3200E-01	1.3421E-01
P	9.3244E+01	4.5287E+02	7.6134E+02	P	1.6169E+02	9.6578E+02	1.6164E+03
T	1.3453E+01	1.8381E+01	2.1498E+01	T	1.7347E+01	2.5588E+01	3.1929E+01
PHO	6.6046E+00	2.1680E+01	2.9184E+01	PHO	7.9794E+00	2.8182E+01	3.4798E+01
M	1.8189E+01	2.9683E+01	3.8261E+01	M	3.0263E+01	5.1188E+01	6.6531E+01
A	3.4591E+00	4.2573E+00	4.8198E+00	A	4.1633E+00	5.6407E+00	6.7781E+00
S	1.2968E+00	1.3282E+00	1.3714E+00	S	1.4044E+00	1.4546E+00	1.5199E+00
Z	1.0494E+00	1.1377E+00	1.2135E+00	Z	1.1681E+00	1.3393E+00	1.4550E+00
GAME	8.4753E-01	8.6764E-01	8.9045E-01	GAME	8.5538E-01	9.2843E-01	9.8966E-01
U	7.3139E+00	2.2265E+00	2.1371E+00	U	9.8004E+00	2.7741E+00	2.9127E+00

P1 = 5.00E+04 N/50-M, US1= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1407E+02	6.0520E+02	1.0048E+03
T	1.4794E+01	2.0593E+01	2.4350E+01
RHO	7.1220E+00	2.4500E+01	3.1966E+01
M	2.1867E+01	3.6270E+01	4.6616E+01
A	3.6801E+00	4.6702E+00	5.3445E+00
S	1.3318E+00	1.3703E+00	1.4179E+00
Z	1.0826E+00	1.1994E+00	1.2909E+00
GAME	9.4556E-01	8.8296E-01	9.1551E-01
U	8.1501E+00	2.3682E+00	2.3360E+00

SPECIES	MOLE FRACTIONS	
E-	1.0119E-08	1.4239E-06
HE	3.2329E-01	2.9177E-01
ME+	1.2049E-19	2.3734E-14
ME++	2.4822E-72	8.7345E-53
H	1.5261E-01	3.3273E-01
M+	1.0119E-08	1.4239E-06
M2	5.2410E-01	3.7550E-01

P1 = 5.00E+04 N/50-M, US1= 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3692E+02	7.7790E+02	1.2901E+03
T	1.6078E+01	2.2970E+01	2.7718E+01
RHO	7.5895E+00	2.6714E+01	3.3991E+01
M	2.5892E+01	4.3449E+01	5.6001E+01
A	3.9139E+02	5.1284E+00	6.9078E+00
S	1.3677E+00	1.4127E+00	1.4646E+00
Z	1.1225E+00	1.2677E+00	1.3733E+00
GAME	8.4877E-01	9.0319E-01	9.4821E-01
U	9.9795E+00	2.5490E+00	2.5893E+00

SPECIES	MOLE FRACTIONS	
E-	5.0238E-08	6.0414E-06
HE	3.1191E-01	2.7609E-01
ME+	3.9868E-18	6.4390E-13
ME++	1.9399E-66	3.6452E-49
H	2.1822E-01	4.2231E-01
M+	5.0240E-09	6.3614E-06
M2	4.8997E-01	3.0159E-01

P1 = 5.00E+04 N/50-M, US1= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8836E+02	1.1615E+03	1.9434E+03
T	1.8642E+01	2.8566E+01	3.7448E+01
RHO	8.2864E+00	2.8821E+01	3.4695E+01
M	3.4578E+01	5.9439E+01	7.8405E+01
A	4.4329E+00	6.2169E+00	7.6778E+00
S	1.4419E+00	1.4937E+00	1.5558E+00
Z	1.2189E+00	1.4108E+00	1.5266E+00
GAME	8.6478E-01	9.5906E-01	1.0311E+00
U	1.0611E+01	3.0509E+00	3.3349E+00

SPECIES	MOLE FRACTIONS	
E-	6.1995E-07	7.0993E-05
HE	2.8714E-01	2.4809E-01
ME+	1.0778E-15	1.9044E-13
ME++	1.3446E-57	1.0706E-37
H	3.5920E-01	5.8212E-01
M+	6.1995E-07	7.0993E-05
M2	3.5366E-01	1.6965E-01

P1 = 5.00E+04 N/50-M, US1= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1688E+02	1.3783E+03	2.3865E+03
T	1.9986E+01	3.2071E+01	4.4614E+01
RHO	8.5217E+00	2.8670E+01	3.3858E+01
M	4.0037E+01	6.8153E+01	9.1607E+01
A	4.7239E+00	6.8635E+00	8.6128E+00
S	1.4794E+00	1.5353E+00	1.5996E+00
Z	1.2734E+00	1.4772E+00	1.5900E+00
GAME	9.7691E-01	9.9434E-01	1.0524E+00
U	1.1411E+01	3.3903E+00	3.8558E+00

SPECIES	MOLE FRACTIONS	
E-	1.7710E-06	2.1735E-04
HE	2.7485E-01	2.3693E-01
ME+	1.1551E-14	2.5797E-09
ME++	1.1436E-53	1.6891E-33
H	4.2942E-01	6.4547E-01
M+	1.7710E-06	2.1735E-04
M2	2.9573E-01	1.1716E-01

Table I. - Continued

$$P_1 = 30 \text{ kN/m}^2$$

P1 = 5.00E+04 N/50-M, US1 = 1.60E+04 M/SEC				P1 = 5.00E+04 N/50-M, US1 = 1.90E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
F-				E-			
HE				HE			
HE+				HE+			
H				H			
H+				H+			
H2				H2			
F-				F-			
HE				HE			
HE+				HE+			
H				H			
H+				H+			
H2				H2			
F-				F-			
HE				HE			
HE+				HE+			
H				H			
H+				H+			
H2				H2			

P1 = 5.00E+04 N/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8301E+02	2.1222E+03	4.1907E+03
T	2.9924E+01	5.7979E+01	8.0602E+01
RHO	8.2352E+00	2.2189E+01	3.0045E+01
M	7.0330E+01	1.1718E+02	1.6567E+02
A	6.8430E+00	9.8456E+00	1.1567E+01
S	1.6819E+00	1.7018E+00	1.7624E+00
Z	1.5542E+00	1.6494E+00	1.7305E+00
GAME	1.0068E+00	1.0135E+00	9.5822E-01
U	1.5144E+01	5.6153E+00	5.7107E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.1970E-04	1.4997E-02	5.5391E-02
ME	2.2319E-01	2.1212E-01	2.0068E-01
ME+	5.6266E-10	5.3413E-05	1.5704E-03
M	1.5221E-35	7.6757E-18	1.8752E-12
M+	7.1221E-01	7.4266E-01	6.7970E-01
M2	2.1970E-04	1.4997E-02	5.5391E-02
M2	6.1849E-32	1.5229E-02	9.9527E-03

P1 = 5.00E+04 N/50-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1968E+02	2.2231E+03	4.3875E+03
T	3.3406E+01	6.3319E+01	8.5876E+01
RHO	7.8968E+00	2.1015E+01	2.9002E+01
M	7.7336E+01	1.2817E+02	1.8379E+02
A	7.4422E+00	1.0232E+01	1.1966E+01
S	1.6941E+00	1.7395E+00	1.7910E+00
Z	1.5912E+00	1.6707E+00	1.7616E+00
GAME	1.0433E+00	9.9361E-01	9.4649E-01
U	1.5959E+01	5.9352E+00	5.9132E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.0953E-04	2.3794E-02	7.0626E-02
ME	2.1966E-01	2.0933E-01	1.9591E-01
ME+	9.9441E-09	1.5763E-04	2.7442E-03
M	1.1171E-31	3.6249E-16	1.4409E-11
M+	7.4124E-01	7.3168E-01	6.5588E-01
M2	6.2992E-04	2.3636E-02	6.7960E-02
M2	3.7578E-02	1.1399E-02	7.2526E-03

P1 = 5.00E+04 N/50-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7907E+02	1.7174E+03	3.2149E+03
T	2.3044E+01	4.1192E+01	6.0680E+01
RHO	8.7050E+00	2.6450E+01	3.2225E+01
M	5.1160E+01	8.6697E+01	1.2049E+02
A	5.4044E+00	8.2387E+00	1.0048E+01
S	1.5542E+00	1.6382E+00	1.6715E+00
Z	1.3908E+00	1.5758E+00	1.6441E+00
GAME	9.1123E-01	1.0508E+00	1.0152E+00
U	1.2969E+01	4.2638E+00	4.7998E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.2145E-03	1.7041E-03	1.5713E-02
ME	2.5165E-01	2.2211E-01	2.1281E-01
ME+	9.4944E-13	3.2330E-07	7.9506E-05
M	1.6244E-44	8.0912E-26	4.0090E-17
M+	5.6194E-01	7.2567E-01	7.3644E-01
M2	1.2145E-03	1.7041E-03	1.5713E-02
M2	1.6637E-01	4.9904E-02	1.0312E-02

P1 = 5.00E+04 N/50-M, US1 = 1.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1244E+02	1.8699E+03	3.5959E+03
T	2.4907E+01	4.6670E+01	6.8073E+01
RHO	8.6525E+00	2.4947E+01	3.1597E+01
M	5.7234E+01	9.6462E+01	1.3547E+02
A	5.8143E+00	8.8756E+00	1.2627E+01
S	1.5917E+00	1.6411E+00	1.7034E+00
Z	1.4504E+00	1.6059E+00	1.6719E+00
GAME	9.3405E-01	1.0511E+00	9.9241E-01
U	1.3721E+01	4.7571E+00	5.1780E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.1039E-05	4.0753E-03	2.7211E-02
ME	2.4137E-01	2.1794E-01	2.0907E-01
ME+	9.4511E-12	2.547E-06	2.9049E-04
M	5.0653E-43	1.3198E-22	4.4204E-15
M+	6.2639E-01	7.4239E-01	7.2322E-01
M2	3.1039E-05	4.0728E-03	2.6970E-02
M2	1.3704E-01	3.1523E-02	1.4197E-02

Table I. - Continued

$$P_1 = 50 \text{ kW/m}^2$$

P1 = 5.00E+04 N/50-M, US1= 2.20E+04 M/SEC				P1 = 5.00E+04 N/50-M, US1= 2.50E+04 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK		REFLECTED SHOCK
	MILE FRACTIONS				MILE FRACTIONS		
E-	1.6207E-03	3.4391E-02	8.6212E-02	5.9116E+02	2.7265E+03	7.4662E-02	1.3283E-01
ME	2.1656E-01	2.0634E-01	1.9074E-01	5.1149E+01	8.2694E+01	1.9492E-01	1.7303E-01
ME+	1.0438E-07	3.7484E-04	4.3740E-03	6.842E+00	1.9634E+01	2.4131E-03	1.1725E-02
ME++	5.6348E-29	7.9212E-15	7.5996E-11	1.0804E+02	1.7798E+02	6.3370E-12	3.1447E-09
M	7.5766E-01	7.1600E-01	6.3081E-01	9.2335E+00	1.1744E+01	6.5808E-01	5.5747E-01
M+	1.6206E-03	3.4017E-02	9.1539E-02	1.7999E+00	1.8346E+00	7.2249E-02	1.2113E-01
M2	2.2539E-02	8.8833E-03	6.0297E-03	1.0041E+00	9.4265E-01	4.9515E-03	3.8360E-03
				1.8395E+01	6.7484E+00		
P	4.5734E+02	2.3190E+03	4.5446E+03	5.9116E+02	2.7265E+03		5.1646E+03
T	3.7537E+01	6.8330E+01	9.0697E+01	5.1149E+01	8.2694E+01		1.0394E+02
RHO	7.5394E+00	2.0044E+01	2.7934E+01	6.842E+00	1.9634E+01		2.6230E+01
M	8.4646E+01	1.3984E+02	1.9688E+02	1.0804E+02	1.7798E+02		2.4534E+02
A	8.0209E+00	1.0633E+01	1.2336E+01	9.2335E+00	1.1744E+01		1.3399E+01
S	1.7238E+00	1.7579E+00	1.8192E+00	1.7999E+00	1.8346E+00		1.8977E+00
Z	1.6162E+00	1.6932E+00	1.7938E+00	1.6609E+00	1.7736E+00		1.9944E+00
GAME	1.0405E+00	9.7717E-01	9.3541E-01	1.0041E+00	9.4265E-01		9.1030E-01
U	1.6446E+01	6.1853E+00	6.0821E+00	1.8395E+01	6.7484E+00		6.4909E+00

P1 = 5.00E+04 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2703E+02	2.9234E+03	5.4784E+03
T	5.5402E+01	8.7016E+01	1.0834E+02
RHD	6.7508E+00	1.8623E+01	2.6199E+01
H	1.1731E+02	1.9230E+02	2.6361E+02
A	9.5536E+00	1.2108E+01	1.3752E+01
S	1.8224E+00	1.9582E+00	1.9226E+00
Z	1.6765E+00	1.8040E+00	1.9298E+00
GAME	9.5266E-01	9.3400E-01	9.0433E-01
U	1.9091E+01	6.9153E+00	6.6331E+00

SPECIES	MOLE FRACTIONS
E-	2.1136E-02
ME	2.0872E-01
HE+	5.2548E-05
HE++	2.9945E-18
H	7.4368E-01
H+	2.1033E-02
M2	5.3364E-03
	9.9620E-02
	1.9022E-01
	3.7916E-03
	3.3284E-11
	6.2629E-01
	8.5828E-02
	4.2584E-03
	1.4837E-01
	1.6632E-01
	1.5044E-02
	8.6376E-09
	5.3355E-01
	1.3333E-01
	3.3874E-03

P1 = 1.00E+04 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7537E+02	3.1497E+03	5.8404E+03
T	5.9426E+01	9.1461E+01	1.1278E+02
RHD	6.7084E+00	1.8761E+01	2.6348E+01
H	1.2646E+02	2.0742E+02	2.9273E+02
A	9.8619E+00	1.2469E+01	1.4123E+01
S	1.8439E+00	1.0811E+00	1.9669E+00
Z	1.6941E+00	1.8330E+00	1.9655E+00
GAME	9.6603E-01	9.2608E-01	8.9982E-01
U	1.9803E+01	7.0760E+00	6.7648E+00

SPECIES	MOLE FRACTIONS
E-	3.0322E-02
ME	2.0647E-01
HE+	1.2815E-04
HE++	7.3718E-17
H	7.2872E-01
H+	3.0194E-02
M2	4.2722E-03
	1.0484E-01
	1.8507E-01
	5.6067E-03
	1.4324E-10
	6.0154E-01
	9.9231E-02
	3.7195E-03
	1.6355E-01
	1.5941E-01
	1.8661E-02
	2.1542E-08
	5.1046E-01
	1.4489E-01
	3.0237E-03

P1 = 5.00E+04 N/SQ-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9646E+02	2.4271E+03	4.7039E+03
T	5.2770E+01	7.3214E+01	9.5151E+01
RMC	7.2261E+00	1.9294E+01	2.7070E+01
H	9.2274E+01	1.5170E+02	2.1164E+02
A	8.5019E+00	1.1039E+01	1.2684E+01
S	1.7511E+00	1.7848E+00	1.8460E+00
Z	1.6331E+00	1.7102E+00	1.8262E+00
GAME	1.0521E+00	9.6353E-01	9.2592E-01
U	1.7062E+01	6.3917E+00	6.2135E+00

SPECIES	MOLE FRACTIONS
E-	3.9166E-03
ME	2.1431E-01
HE+	9.2323E-07
HE++	9.7037E-25
H	7.6391E-01
H+	3.8158E-03
M2	1.4144E-02
	4.5790E-02
	2.0293E-01
	7.7775E-04
	1.0694E-13
	6.9639E-01
	4.6012E-02
	7.1397E-03
	1.0161E-01
	1.8529E-01
	6.3654E-03
	3.0205E-10
	6.0639E-01
	9.5242E-02
	5.1108E-03

P1 = 5.00E+04 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.3767E+02	2.5624E+03	4.9107E+03
T	4.6661E+01	7.7908E+01	9.9574E+01
RMC	6.5967E+00	1.9949E+01	2.6514E+01
H	1.0026E+02	1.6446E+02	2.2811E+02
A	9.9934E+00	1.1378E+01	1.3036E+01
S	1.7762E+00	1.8102E+00	1.8723E+00
Z	1.6460E+00	1.7450E+00	1.8603E+00
GAME	1.2292E+00	9.5230E-01	9.1749E-01
U	1.7730E+01	6.5762E+00	6.3599E+00

SPECIES	MOLE FRACTIONS
E-	7.6522E-03
ME	2.1252E-01
HE+	4.4909E-06
HE++	4.3230E-22
H	7.6253E-01
H+	7.0577E-03
M2	9.5713E-03
	6.0291E-02
	1.9914E-01
	1.4317E-03
	9.5614E-13
	6.7441E-01
	5.4860E-02
	8.8669E-03
	1.1729E-01
	1.7934E-01
	9.9344E-03
	1.0441E-09
	5.9164E-01
	1.0845E-01
	4.3949E-03

Table I. - Continued

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SO-M, US1= 2.80E+04 M/SEC				P1 = 5.00E+04 N/SO-M, US1= 3.20E+04 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK		REFLECTED SHOCK
	MOLE FRACTIONS						
E-	4.0852E-02	1.2039E-01	1.7954E-01	9.0018E-02	1.7968E-01	2.3640E-01	
HE	2.0393E-01	1.7937E-01	1.5231E-01	1.9137E-01	1.5362E-01	1.2386E-01	
HE+	2.6984E-04	7.9099E-03	2.2520E-02	2.0666E-03	2.0845E-02	3.8497E-02	
HE++	1.0748E-15	5.3100E-10	4.9951E-08	1.7223E-12	2.8315E-08	8.5737E-07	
H	7.1084E-01	5.7658E-01	4.8790E-01	6.2664E-01	4.8484E-01	4.0155E-01	
H+	4.0582E-02	1.1248E-01	1.5602E-01	8.7952E-02	1.5894E-01	1.9790E-01	
M2	3.5236E-03	3.2759E-03	2.7144E-03	1.9489E-03	2.1660E-03	1.7940E-03	
P	7.2605E+02	3.3990E+03	6.2441E+03	9.5129E+02	4.6516E+03	8.2684E+03	
T	6.3266E+01	9.5887E+01	1.1724E+02	7.6946E+01	1.1293E+02	1.3616E+02	
RHO	6.6956E+00	1.8968E+01	2.6633E+01	6.8329E+00	2.0532E+01	2.8170E+01	
H	1.3585E+02	2.2325E+02	3.0277E+02	1.7729E+02	2.9407E+02	3.9260E+02	
A	1.0168E+01	1.2831E+01	1.4509E+01	1.1354E+01	1.4270E+01	1.6270E+01	
S	1.8650E+00	1.9042E+00	1.9709E+00	1.9448E+00	1.9920E+00	2.0664E+00	
Z	1.7140E+00	1.7689E+00	2.0020E+00	1.8093E+00	2.0061E+00	2.1557E+00	
GAME	9.5340E-01	9.1872E-01	8.9684E-01	9.2592E-01	8.9878E-01	9.0190E-01	
U	2.0531E+01	7.2439E+00	6.8991E+00	2.3546E+01	7.8245E+00	7.5337E+00	

P1 = 5.00E+04 N/50-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7905E+02	3.6789E+03	6.6933E+03
T	6.4898E+01	1.0019E+02	1.2181E+02
RMC	6.7098E+00	1.9307E+01	2.6952E+01
H	1.4567E+02	2.3990E+02	3.2399E+02
A	1.0469E+01	1.3185E+01	1.4915E+01
S	1.8855E+00	1.9261E+00	1.9950E+00
Z	1.7354E+00	1.9020E+00	2.0394E+00
GAME	9.4393E-01	9.1228E-01	8.9549E-01
U	2.1272E+01	7.3890E+00	7.0522E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	5.2280E-02	1.3544E-01	1.9338E-01
HE	2.0116E-01	1.7341E-01	1.4507E-01
HE+	5.0393E-04	1.0601E-02	2.6549E-02
HE++	1.0230E-14	1.6704E-09	1.0943E-07
H	6.9130E-01	5.5277E-01	4.6573E-01
H+	5.1776E-02	1.2484E-01	1.6683E-01
H2	2.9764E-03	2.9303E-03	2.4457E-03

P1 = 5.00E+04 N/50-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.3431E+02	3.9818E+03	7.1462E+03
T	7.0356E+01	1.0446E+02	1.2647E+02
RMC	6.7428E+00	1.9686E+01	2.7354E+01
H	1.5589E+02	2.5725E+02	3.4599E+02
A	1.0745E+01	1.3542E+01	1.5341E+01
S	1.9054E+00	1.9492E+00	2.0199E+00
Z	1.7587E+00	1.9362E+00	2.0773E+00
GAME	9.3667E-01	9.0867E-01	8.9586E-01
U	2.2024E+01	7.5399E+00	7.2055E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.4343E-02	1.5047E-01	2.0793E-01
HE	1.9816E-01	1.6705E-01	1.3787E-01
HE+	8.5881E-04	1.3714E-02	3.0610E-02
HE++	7.0432E-14	4.2159E-09	2.2683E-07
H	6.7020E-01	5.2937E-01	4.4006E-01
H+	6.3484E-02	1.3676E-01	1.7732E-01
H2	2.5585E-03	2.6358E-03	2.2086E-03

P1 = 5.00E+04 N/50-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0749E+03	5.3799E+03	9.4946E+03
T	8.3152E+01	1.2138E+02	1.4667E+02
RMC	6.5454E+00	2.1410E+01	2.9917E+01
H	2.0015E+02	3.3521E+02	4.4338E+02
A	1.1928E+01	1.5032E+01	1.7332E+01
S	1.9836E+00	2.0357E+00	2.1143E+00
Z	1.8644E+00	2.0776E+00	2.2384E+00
GAME	9.1782E-01	8.9610E-01	9.1494E-01
U	2.5087E+01	3.1358E+00	7.9267E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.1652E-01	2.0760E-01	2.6435E-01
HE	1.8311E-01	1.3996E-01	1.1070E-01
HE+	4.1172E-03	2.8649E-02	4.5652E-02
HE++	2.1905E-11	1.2696E-07	2.4679E-06
H	5.0192E-01	4.6315E-01	3.5917E-01
H+	1.1240E-01	1.7899E-01	2.1849E-01
H2	1.5253E-03	1.7990E-03	1.4314E-03

P1 = 5.00E+04 N/50-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2116E+03	6.2225E+03	1.3865E+04
T	8.9067E+01	1.3703E+02	1.5927E+02
RMC	7.0656E+00	2.2255E+01	2.9516E+01
H	2.2443E+02	3.7558E+02	4.9938E+02
A	1.2499E+01	1.5455E+01	1.8542E+01
S	2.0220E+00	2.0792E+00	2.1621E+00
Z	1.9224E+00	2.1509E+00	2.3257E+00
GAME	9.1094E-01	8.9007E-01	9.3433E-01
U	2.6643E+01	9.4547E+00	9.3933E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.4300E-01	2.3432E-01	2.9166E-01
HE	1.7497E-01	1.2637E-01	9.4925E-02
HE+	7.1752E-03	3.6363E-02	5.1655E-02
HE++	1.7635E-10	4.6514E-07	9.5594E-06
H	5.3741E-01	4.0349E-01	3.1675E-01
H+	1.3542E-01	1.9794E-01	2.3999E-01
H2	1.2239E-03	1.4934E-03	1.1112E-03

Table I. - Continued

 $P_1 = 50 \text{ kN/m}^2$

$P_1 = 5.00E+04 \text{ N/SQ-M, US1= 3.80E+04 M/SEC}$				$P_1 = 5.00E+04 \text{ N/SQ-M, US1= 4.40E+04 M/SEC}$			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.3527E+03	7.1097E+03	1.2387E+04	P	1.8275E+03	1.0062E+04	1.7877E+04
T	9.4761E+01	1.3896E+02	1.7134E+02	T	1.1111E+02	1.6943E+02	2.2104E+02
RHC	7.1985E+00	2.2985E+01	2.9902E+01	RHC	7.5684E+00	2.4116E+01	2.9972E+01
H	2.5013E+02	4.2006E+02	5.5789E+02	H	3.3563E+02	5.6694E+02	7.6548E+02
A	1.3040E+01	1.6756E+01	1.9914E+01	A	1.4705E+01	2.0001E+01	2.4671E+01
S	2.0624E+00	2.1225E+00	2.2101E+00	S	2.1754E+00	2.2496E+00	2.3496E+00
Z	1.9830E+00	2.2259E+00	2.4177E+00	Z	2.1732E+00	2.4630E+00	2.6985E+00
GAME	9.0498E-01	9.0764E-01	9.5729E-01	GAME	8.9553E-01	9.4875E-01	1.0204E+00
U	2.8203E+01	8.8254E+00	8.9371E+00	U	3.2913E+01	1.0324E+01	1.1116E+01
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	1.6893E-01	2.5997E-01	3.1936E-01	E-	2.4129E-01	3.3067E-01	3.9801E-01
HE	1.6521E-01	1.1367E-01	8.8307E-02	HE	1.3229E-01	5.2794E-02	6.4042E-02
HE+	1.1285E-02	4.3562E-02	5.6432E-02	HE+	2.8765E-02	5.9284E-02	6.5109E-02
HE++	1.0148E-09	1.4744E-06	2.6416E-05	HE++	5.2435E-08	7.7792E-05	5.1152E-04
H	4.9593E-01	3.6517E-01	2.7416E-01	H	3.8457E-01	2.5531E-01	1.5853E-01
M+	1.5764E-01	2.1640E-01	2.6188E-01	M+	2.1253E-01	2.7133E-01	3.2268E-01
?	9.9314E-04	1.2266E-03	8.2717E-04	?	5.5494E-04	5.9391E-04	2.6849E-04

P1 = 5.00E+04 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0014E+03	1.1103E+04	1.9981E+04
T	1.1652E+02	1.8110E+02	2.4113E+02
RHO	7.6718E+00	2.4104E+01	2.9764E+01
M	3.6692E+02	6.1999E+02	8.4392E+02
A	2.1236E+01	2.1236E+01	2.6273E+01
S	1.5292E+01	2.2905E+00	2.3937E+00
Z	2.2138E+00	2.5435E+00	2.7840E+00
GAME	8.9643E-01	9.7907E-01	1.0282E+00
U	3.4480E+01	1.0967E+01	1.1968E+01

SPECIES ----- MOLE FRACTIONS -----

E-	2.6347E-01	3.5172E-01	4.0751E-01
HE	1.2077E-01	7.4938E-02	5.7502E-02
HE+	3.5559E-02	6.2604E-02	6.6948E-02
HE++	1.4708E-07	6.5848E-05	1.2188E-03
H	3.5183E-01	2.2125E-01	1.2852E-01
H+	2.2791E-01	2.8898E-01	3.3808E-01
H2	4.5840E-04	4.4063E-04	1.7448E-04

P1 = 5.00E+04 N/SQ-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1827E+03	1.2150E+04	2.2187E+04
T	1.2203E+02	1.5353E+02	2.6244E+02
RHO	7.1581E+00	2.3948E+01	2.9539E+01
M	3.9959E+02	6.7487E+02	9.7457E+02
A	1.5910E+01	2.2503E+01	2.7600E+01
S	2.2523E+00	2.3293E+00	2.4361E+00
Z	2.3056E+00	2.6216E+00	2.8623E+00
GAME	8.9974E-01	9.9782E-01	1.0260E+00
U	3.6038E+01	1.1678E+01	1.2853E+01

SPECIES ----- MOLE FRACTIONS -----

E-	2.8472E-01	3.7392E-01	4.7359E-01
HE	1.3940E-01	6.9131E-02	5.1210E-02
HE+	4.4005E-02	6.5230E-02	6.8435E-02
HE++	3.7730E-07	1.4779E-04	2.6482E-03
H	3.2378E-01	1.8985E-01	1.5615E-01
H+	2.8237E-01	3.5406E-01	3.6596E-01
H2	3.7645E-04	3.1944E-04	1.1355E-04

P1 = 5.00E+04 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5030E+03	9.0493E+03	1.4049E+04
T	1.0027E+02	1.4848E+02	1.8612E+02
RHO	7.3274E+00	2.3526E+01	3.0083E+01
M	2.7723E+02	4.6480E+02	6.2240E+02
A	1.3589E+01	1.7754E+01	2.1428E+01
S	2.0987E+00	2.1660E+00	2.2578E+00
Z	2.0451E+00	2.3041E+00	2.5127E+00
GAME	9.0013E-01	9.2139E-01	9.8175E-01
U	2.9772E+01	9.2683E+00	9.5916E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.9403E-01	2.8466E-01	3.4393E-01
HE	1.5476E-01	1.0199E-01	7.9137E-02
HE+	1.6379E-02	4.9911E-02	6.0080E-02
HE++	4.5278E-09	4.2441E-04	7.4679E-05
H	4.5639E-01	3.2731E-01	2.3249E-01
H+	1.7765E-01	2.3494E-01	2.8370E-01
H2	8.1396E-04	9.8506E-04	5.9995E-04

P1 = 5.00E+04 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6613E+03	9.0414E+03	1.5902E+04
T	1.0572E+02	1.5954E+02	2.0263E+02
RHO	7.4522E+00	2.3937E+01	3.0103E+01
M	3.0573E+02	5.1587E+02	6.9159E+02
A	1.4144E+01	1.9931E+01	2.3228E+01
S	2.1370E+00	2.2079E+00	2.3042E+00
Z	2.1066E+00	2.3923E+00	2.6070E+00
GAME	8.9684E-01	9.3886E-01	1.0038E+00
U	3.1343E+01	9.7509E+00	1.0320E+01

SPECIES ----- MOLE FRACTIONS -----

E-	2.1816E-01	3.0823E-01	3.6748E-01
HE	1.4370E-01	9.1935E-02	7.1203E-02
HE+	2.2289E-02	5.5088E-02	6.2853E-02
HE++	1.6614E-09	1.1154E-05	2.0039E-04
H	4.1931E-01	2.9097E-01	1.9363E-01
H+	1.9587E-01	2.5312E-01	3.0423E-01
H2	6.7113E-04	7.7727E-04	4.0518E-04

Table I. - Continued

 $P_1 = 50 \text{ kN/m}^2$

$P_1 = 5.00E+04 \text{ N/SQ-M, USI} = 5.60E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3713E+03	1.3189E+04	2.6433E+04
T	1.2770E+02	2.0702E+02	2.9412E+02
RHO	7.9237E+00	2.3613E+01	2.9330E+01
M	4.3361E+02	7.3149E+02	1.0117E+03
A	1.6567E+01	2.3799E+01	2.9105E+01
S	2.2907E+00	2.3690E+00	2.4767E+00
Z	2.3734E+03	2.6984E+00	2.9320E+00
GAPE	9.0559E-01	1.0138E+00	1.0169E+00
U	3.7597E+01	1.2449E+01	1.3681E+01
SPECIES ----- MOLE FRACTIONS -----			
L-	3.0510E-01	3.8875E-01	4.3732E-01
ME	5.8394E-02	6.1913E-02	4.5096E-02
ME+	4.9073E-02	6.7471E-02	6.9162E-02
ME++	9.0422E-07	3.2188E-04	5.1155E-03
M	2.9110E-01	1.6064E-01	8.5310E-02
M+	2.5403E-01	3.2064E-01	3.5792E-01
M2	3.0705E-04	2.2405E-04	7.5787E-05

$P_1 = 5.00E+04 \text{ N/SQ-M, USI} = 5.60E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9767E+03	1.6159E+04	3.1129E+04
T	1.4653E+02	2.5171E+02	3.4804E+02
RHO	7.8689E+00	2.2141E+01	2.9731E+01
M	5.4377E+02	9.1117E+02	1.2814E+03
A	1.8840E+01	2.7393E+01	3.2892E+01
S	2.4347E+00	2.4799E+00	2.5903E+00
Z	2.317E+00	2.8995E+00	3.1131E+00
GAPE	9.1820E-01	1.0281E+00	9.9851E-01
U	4.2132E+01	1.4958E+01	1.5899E+01
SPECIES ----- MOLE FRACTIONS -----			
L-	3.6105E-01	4.3101E-01	4.7000E-01
ME	6.9269E-02	6.6004E-02	2.7780E-02
ME+	6.6289E-02	6.2250E-02	6.5521E-02
ME++	9.6305E-06	2.4454E-03	1.9129E-02
M	2.0847E-01	9.4340E-02	5.1314E-02
M+	2.9477E-01	3.5387E-01	3.6622E-01
M2	1.5146E-04	7.1726E-05	2.7430E-05

P1 = 5.00E+04 N/50-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
B	2.9667E+03	1.4205E+04	2.6694E+04
T	1.3362E+02	2.2131E+02	3.0555E+02
RMC	7.8653E+00	2.3163E+01	2.9150E+01
M	4.6900E+02	7.8971E+02	1.0990E+03
A	1.7270E+01	2.5071E+01	3.0355E+01
S	2.3290E+00	2.4072E+00	2.5194E+00
Z	2.4422E+00	2.7710E+00	2.9955E+00
GAME	9.1406E-01	1.0250E+00	1.0047E+00
U	3.9126E+01	1.3274E+01	1.4462E+01

SPECIES	MOLE FRACTIONS	
E-	3.2462E-01	4.4923E-01
HE	8.7946E-02	3.9156E-02
ME+	5.3367E-02	6.9396E-02
ME++	2.0590E-06	6.6099E-04
H	2.6257E-01	1.3488E-01
M+	2.6925E-01	3.3396E-01
M2	2.4762E-04	1.5414E-04

P1 = 5.00E+04 N/50-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7694E+03	1.5199E+04	2.9939E+04
T	1.3987E+02	2.3615E+02	3.2702E+02
RMC	7.8807E+00	2.2681E+01	2.6957E+01
M	5.3572E+02	8.4962E+02	1.1955E+03
A	1.8026E+01	2.6270E+01	3.1612E+01
S	2.3670E+00	2.4437E+00	2.5536E+00
Z	2.5119E+00	2.8374E+00	3.0543E+00
GAME	9.2493E-01	1.0299E+00	9.997E-01
U	4.6636E+01	1.4114E+01	1.5237E+01

SPECIES	MOLE FRACTIONS	
E-	3.4328E-01	4.1859E-01
HE	7.9202E-02	5.1045E-02
ME+	6.1138E-02	7.0999E-02
ME++	4.5129E-06	1.3142E-02
H	2.3504E-01	1.1299E-01
M+	2.3214E-01	3.4497E-01
M2	1.9543E-04	1.0596E-04

P1 = 5.00E+04 N/50-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1907E+03	1.7108E+04	3.3240E+04
T	1.5371E+02	2.6719E+02	3.6890E+02
RMC	7.8286E+00	2.1670E+01	2.8451E+01
M	5.8313E+02	9.7471E+02	1.3753E+03
A	1.9713E+01	2.8393E+01	3.4214E+01
S	2.4420E+00	2.5199E+00	2.6256E+00
Z	2.6516E+00	2.9547E+00	3.1671E+00
GAME	9.5346E-01	1.0211E+00	1.0021E+00
U	4.3604E+01	1.5745E+01	1.6551E+01

SPECIES	MOLE FRACTIONS	
E-	3.7785E-01	4.4163E-01
HE	6.1201E-02	4.1330E-02
ME+	7.0773E-02	7.2918E-02
ME++	2.0267E-05	4.2059E-03
H	1.8300E-01	7.9573E-02
M+	3.0746E-01	3.6030E-01
M2	1.1464E-04	4.9933E-05

P1 = 5.00E+04 N/50-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4102E+03	1.8011E+04	3.5289E+04
T	1.6149E+02	2.8308E+02	3.9084E+02
RMC	7.7620E+00	2.1153E+01	2.8033E+01
M	6.2380E+02	1.0398E+03	1.4724E+03
A	2.0646E+01	2.9344E+01	3.5661E+01
S	2.4787E+00	2.5486E+00	2.6616E+00
Z	2.7204E+00	3.0078E+00	3.2208E+00
GAME	9.7018E-01	1.0113E+00	1.0103E+00
U	4.5051E+01	1.6519E+01	1.7245E+01

SPECIES	MOLE FRACTIONS	
E-	3.9360E-01	4.5147E-01
HE	5.4039E-02	3.6626E-02
ME+	7.4598E-02	7.2894E-02
ME++	4.1849E-05	6.8436E-03
H	1.5875E-01	6.7252E-02
M+	3.1892E-01	3.6488E-01
M2	8.4491E-05	3.4878E-05

Table 1. - Continued
 $P_1 = 50 \text{ kN/m}^2$

P1 = 5.00E+04 N/SQ-M, US1= 6.20E+04 M/SEC							P1 = 5.00E+04 N/SQ-M, US1= 6.80E+04 M/SEC						
SPECIES	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	SPECIES	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	
	MOLE FRACTIONS								MOLE FRACTIONS				
E-	4.0818E-01	4.6050E-01	4.6050E-01	4.9559E-01	4.4395E-01	4.8366E-01	5.1520E-01	E-	4.4395E-01	4.8366E-01	4.8366E-01	5.1520E-01	
HE	4.7659E-02	3.2045E-02	3.2045E-02	1.3932E-02	3.2937E-02	1.9973E-02	5.2988E-03	HE	3.2937E-02	1.9973E-02	1.9973E-02	5.2988E-03	
HE+	7.7806E-02	7.1999E-02	7.1999E-02	5.4906E-02	8.4316E-02	6.4485E-02	4.1053E-02	HE+	8.4316E-02	6.4485E-02	6.4485E-02	4.1053E-02	
HE++	8.5945E-05	1.0400E-02	1.0400E-02	3.8161E-02	6.9999E-04	2.5072E-02	5.6449E-02	HE++	6.9999E-04	2.5072E-02	2.5072E-02	5.6449E-02	
H	1.3601E-01	5.7321E-02	5.7321E-02	3.3045E-02	7.9834E-02	3.7779E-02	2.0612E-02	H	7.9834E-02	3.7779E-02	3.7779E-02	2.0612E-02	
H+	3.3020E-01	3.6771E-01	3.6771E-01	3.6436E-01	3.5824E-01	3.6903E-01	3.6129E-01	H+	3.5824E-01	3.6903E-01	3.6903E-01	3.6129E-01	
M2	6.0547E-05	2.4822E-05	2.4822E-05	1.1299E-05	1.9138E-05	1.0308E-05	4.2324E-04	M2	1.9138E-05	1.0308E-05	1.0308E-05	4.2324E-04	
P	3.6349E+03	1.8878E+04	3.7246E+04	4.3393E+03	2.1376E+04	4.2680E+04		P	4.3393E+03	2.1376E+04	4.2680E+04		
T	1.4597E+02	2.9894E+02	4.1335E+02	2.0025E+02	3.4516E+02	4.9212E+02		T	2.0025E+02	3.4516E+02	4.9212E+02		
RHO	7.6714E+00	2.0649E+01	2.7547E+01	7.3025E+00	1.9381E+01	2.5478E+01		RHO	7.3025E+00	1.9381E+01	2.5478E+01		
H	6.6574E+02	1.1067E+03	1.5724E+03	7.9920E+02	1.3191E+03	1.8925E+03		H	7.9920E+02	1.3191E+03	1.8925E+03		
A	2.1632E+01	3.0268E+01	3.7172E+01	2.4744E+01	3.3114E+01	4.2340E+01		A	2.4744E+01	3.3114E+01	4.2340E+01		
S	2.5146E+00	2.5829E+00	2.6963E+00	2.6168E+00	2.6797E+00	2.7996E+00		S	2.6168E+00	2.6797E+00	2.7996E+00		
Z	2.7877E+00	3.0583E+00	3.2710E+00	2.9673E+00	3.1955E+00	3.4040E+00		Z	2.9673E+00	3.1955E+00	3.4040E+00		
GAME	9.8726E-01	1.0021E+00	1.0220E+00	1.0304E+00	9.9421E-01	1.0702E+00		GAME	1.0304E+00	9.9421E-01	1.0702E+00		
U	4.6471E+01	1.7253E+01	1.7955E+01	5.0585E+01	1.9070E+01	2.0339E+01		U	5.0585E+01	1.9070E+01	2.0339E+01		

P1 = 5.00E+04 N/SQ-M, US1= 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5037E+03	2.2161E+04	4.4593E+04
T	7.1198E+02	3.6103E+02	5.2290E+02
RHO	7.1641E+00	1.8949E+01	2.4484E+01
M	8.4419E+02	1.3932E+03	2.0041E+03
A	2.5173E+01	3.4177E+01	4.4195E+01
S	2.6489E+00	2.7114E+00	2.8327E+00
Z	3.0174E+00	3.2393E+00	3.4394E+00
GAME	1.0350E+00	9.9879E-01	1.0860E+00
U	5.1907E+01	1.9618E+01	2.1224E+01

SPECIES	MOLE FRACTIONS
E-	4.5318E-01
HE	2.9152E-02
HE+	8.5489E-02
HE++	1.3531E-03
H	6.5824E-02
H+	3.6499E-01
H2	1.2615E-05
	7.8181E-06
	5.2026E-01
	3.6372E-03
	3.6521E-02
	6.1605E-02
	1.7435E-02
	3.6053E-01
	2.9739E-06

P1 = 5.00E+04 N/SQ-M, US1= 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8000E+03	1.9758E+04	3.9084E+04
T	1.7923E+02	3.1418E+02	4.3700E+02
RHO	7.5603E+00	2.0258E+01	2.6955E+01
M	7.0596E+02	1.1761E+03	1.6741E+03
A	2.2660E+01	3.1166E+01	3.8764E+01
S	2.5497E+00	2.6148E+00	2.7304E+00
Z	2.8519E+00	3.1044E+00	3.3181E+00
GAME	1.0045E+00	9.9590E-01	1.0363E+00
U	4.7865E+01	1.7853E+01	1.8640E+01

SPECIES	MOLE FRACTIONS
E-	4.2149E-01
HE	4.2085E-02
HE+	8.0435E-02
HE++	1.7516E-04
H	1.1507E-01
H+	3.4068E-01
H2	4.2144E-05
	1.8388E-05
	5.0273E-01
	1.0499E-02
	5.0540E-02
	4.4454E-02
	2.8497E-02
	3.6329E-01
	8.3285E-06

P1 = 5.00E+04 N/SQ-M, US1= 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0993E+03	2.0581E+04	4.0900E+04
T	1.8935E+02	3.2970E+02	4.6332E+02
RHO	7.4334E+00	1.9812E+01	2.6248E+01
M	7.5344E+02	1.2468E+03	1.7817E+03
A	2.3711E+01	3.2121E+01	4.0506E+01
S	2.5839E+00	2.6477E+00	2.7652E+00
Z	2.9123E+00	3.1508E+00	3.3631E+00
GAME	1.0195E+00	9.9317E-01	1.0530E+00
U	4.9234E+01	1.8460E+01	1.9477E+01

SPECIES	MOLE FRACTIONS
E-	4.3347E-01
HE	3.7191E-02
HE+	9.2635E-02
HE++	3.5397E-04
H	9.6232E-02
H+	3.5012E-01
H2	2.8638E-05
	1.3661E-05
	4.7633E-01
	2.3763E-02
	6.7702E-02
	1.9618E-02
	4.3172E-02
	3.6940E-01
	3.6222E-01
	5.9856E-06

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table 1. - Continued

$P_1 = 100 \text{ kN/m}^2$

$P_1 = 1.03E+05 \text{ N/SQ-M, US1= 4.00E+03 M/SEC}$				$P_1 = 1.00E+05 \text{ N/SQ-M, US1= 7.00E+03 M/SEC}$			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.3967E+01	2.8745E+01	7.2711E+01	P	4.3906E+01	1.4723E+02	2.8821E+02
T	3.5541E+00	4.4740E+00	6.5349E+00	T	9.5359E+00	1.1954E+01	1.4777E+01
RHC	3.5293E+00	6.4257E+00	1.1126E+01	RHC	5.1379E+00	1.2284E+01	1.8804E+01
M	3.8325E+00	4.6133E+00	6.9068E+00	M	5.2936E+00	1.3909E+01	1.9093E+01
A	1.8736E+00	2.0903E+00	2.4979E+00	A	2.8172E+00	3.2578E+00	3.6495E+00
S	1.0966E+00	1.0882E+00	1.1113E+00	S	1.2034E+00	1.2151E+00	1.2472E+00
Z	1.0006E+00	1.0003E+00	1.0000E+00	Z	1.3016E+00	1.0111E+00	1.0371E+00
GAME	9.8771E-01	9.7665E-01	9.5472E-01	GAME	9.2886E-01	9.9551E-01	9.6246E-01
U	2.5703E+00	1.5703E+00	1.4044E+00	U	4.8592E+00	2.0309E+00	1.8278E+00
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	1.9020E-54	5.8374E-35	3.2087E-21	E-	1.5621E-15	2.1639E-11	3.0149E-09
HE	3.5060E-01	3.5003E-01	3.4959E-01	HE	3.4945E-01	3.4615E-01	3.3749E-01
HE+	5.4729E-62	5.3704E-52	4.6712E-43	HE+	1.0432E-33	2.5943E-25	7.7189E-20
HE++	C.	0.	0.	HE++	0.	7.2285E-97	1.1088E-72
H	1.4019E-05	1.4201E-07	5.8858E-05	H	1.9815E-03	2.1986E-02	7.1559E-02
M+	8.1343E-20	8.1343E-20	8.4550E-20	M+	1.5622E-15	2.1639E-11	3.0149E-09
M2	6.5000E-01	6.5000E-01	6.4995E-01	M2	6.4836E-01	6.3186E-01	5.0096E-01

P1 = 1.00E+05 N/50-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2024E+01	5.6066E+01	1.2818E+02
T	4.9880E+00	6.6927E+00	9.3735E+00
RHO	4.4153E+00	8.3892E+00	1.3655E+01
M	5.1726E+00	7.0767E+00	1.0322E+01
A	2.2003E+00	2.5238E+00	2.9436E+00
S	1.1273E+00	1.1323E+00	1.1590E+00
Z	1.0000E+00	1.0000E+00	1.0015E+00
CAME	9.7659E-01	9.5313E-01	9.2302E-01
U	3.3339E+00	1.7537E+00	1.5941E+00

SPECIES

MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	1.7581E-32
HE	3.5000E-01
HE+	5.4205E-50
HE++	0.
H	1.4868E-06
H+	8.1343E-20
H2	6.5000E-01

P1 = 1.00E+05 N/50-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1975E+01	9.4376E+01	1.2939E+02
T	6.6658E+00	9.2304E+00	1.2201E+01
RHO	4.7977E+00	1.0209E+01	1.5149E+01
M	7.0581E+00	1.0152E+01	1.4394E+01
A	2.5203E+00	2.9209E+00	3.3071E+00
S	1.1666E+00	1.1744E+00	1.2037E+00
Z	1.0001E+00	1.0015E+00	1.0119E+00
CAME	9.5285E-01	9.2289E-01	8.8573E-01
U	4.6937E+00	1.9224E+00	1.7314E+00

SPECIES

MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	3.9068E-20
HE	3.4947E-01
HE+	1.1000E-42
HE++	0.
H	1.1628E-04
H+	1.1541E-19
H2	6.4760E-01

P1 = 1.00E+05 N/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.7561E+01	2.1951E+02	4.3377E+02
T	1.0442E+01	1.4323E+01	1.7250E+01
RHO	5.5165E+00	1.4937E+01	2.1531E+01
M	1.1889E+01	1.4931E+01	2.4589E+01
A	3.6661E+00	3.6655E+00	4.3212E+00
S	1.2384E+00	1.2554E+00	1.2811E+00
Z	1.0000E+00	1.0000E+00	1.0076E+00
CAME	8.6947E-01	8.6731E-01	8.7017E-01
U	5.6451E+00	2.1012E+00	1.9264E+00

SPECIES

MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	1.1254E-12
HE	3.4755E-01
HE+	6.2473E-22
HE++	0.
H	1.2251E-02
H+	1.1245E-12
H2	6.3517E-01

P1 = 1.00E+05 N/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.4303E+01	2.1951E+02	5.5444E+02
T	1.2201E+01	1.4937E+01	1.9934E+01
RHO	5.5010E+00	1.7325E+01	2.4756E+01
M	1.4950E+01	2.5564E+01	3.1044E+01
A	3.2877E+00	3.6537E+00	4.4435E+00
S	1.2727E+00	1.2952E+00	1.3250E+00
Z	1.0151E+00	1.0076E+00	1.0125E+00
CAME	9.6841E-01	9.6669E-01	9.9159E-01
U	6.4578E+00	2.1064E+00	2.0526E+00

SPECIES

MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	9.2544E-11
HE	3.4947E-01
HE+	9.2544E-17
HE++	4.5563E-64
H	1.3621E-01
H+	8.2544E-11
H2	6.3517E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table I.- Continued

 $p_1 = 100 \text{ kN/m}^2$

P1 = 1.00E+05 N/50-M, US1 = 1.00E+04 M/SEC				P1 = 1.00E+05 N/50-M, US1 = 1.30E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.4869E-09	3.0802E-07	3.1555E-06	E-	1.6094E+02	9.1E+01	1.5E71E+03
HE	3.3593E-01	3.1239E-01	2.9346E-01	Y	1.8123E+01	2.6E+01	3.0E43E+01
HE+	4.4505E-21	1.5793E-15	3.5438E-13	RHC	7.7097E+00	2.6E+01	3.0E17E+01
HE++	1.6197E-77	1.2749E-56	4.7549E-48	P	3.0230E+01	5.0E+01	6.0E75E+01
H	8.0373E-02	2.1490E-01	3.2307E-01	A	4.0E46E+00	5.7E+01	6.0E24E+00
M+	1.4869E-09	3.0802E-07	3.1555E-06	S	1.4150E+00	1.4E+01	1.5E18E+00
P2	5.8369E-01	4.7271E-01	3.8346E-01	Z	1.1510E+00	1.0E+01	1.4E19E+00
				CAPE	8.0E00E-01	2.0E+01	5.0E42E+01
				U	9.7E+00	2.0E+01	3.0E22E+00

P1 = 1.00E+05 N/50-M, US1 = 1.10E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1354E+02	5.7914E+02	9.6073E+02
T	1.5287E+01	4.1488E+01	2.5778E+01
RHC	6.9291E+03	2.2957E+01	3.0242E+01
M	2.1043E+01	3.6306E+01	4.6762E+01
A	3.7413E+00	4.7499E+00	5.4745E+00
S	1.3427E+06	1.3791E+00	1.4271E+00
Z	1.0725E+00	1.1771E+00	1.2648E+00
GAME	9.5356E-01	8.9142E-01	9.2613E-01
U	8.1131E+00	2.4537E+00	2.4279E+00

SPECIES	MOLE FRACTIONS
E-	1.2354E-09
HE	3.2648E-01
ME	4.2754E-14
HE+	2.5657E-70
H	1.3439E-01
H+	1.2354E-08
M2	5.3913E-01
E-	1.7538E-06
HE	2.5734E-01
ME	7.9946E-14
HE+	3.1150E-50
H	3.0342E-01
H+	1.7538E-06
M2	4.03174E-01
E-	1.5133E-05
HE	2.7673E-01
ME	1.2478E-11
HE+	5.4858E-42
H	4.1863E-01
H+	1.5133E-05
M2	3.0461E-01

P1 = 1.00E+05 N/50-M, US1 = 1.20E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3625E+02	7.4410E+02	1.2545E+03
T	1.6712E+01	2.4737E+01	2.9452E+01
RHC	7.3522E+00	2.4617E+01	3.1738E+01
M	2.5864E+01	4.3118E+01	5.6179E+01
A	3.9855E+00	5.2145E+00	6.1534E+00
S	1.3785E+00	1.4220E+00	1.4725E+00
Z	1.108E+00	1.2401E+00	1.3420E+00
GAME	8.5717E-01	7.1232E-01	9.5797E-01
U	8.5302E+00	2.6461E+00	2.6040E+00

SPECIES	MOLE FRACTIONS
E-	6.5897E-08
HE	3.1542E-01
ME	1.6641E-17
HE+	1.7134E-45
H	1.5643E-01
H+	3.8714E-01
M2	7.5122E-06
E-	2.5122E-06
HE	2.6225E-01
ME	2.1127E-12
HE+	4.9456E-45
H	3.8714E-01
H+	3.8714E-01
M2	3.3359E-01
E-	6.1942E-05
HE	2.6040E-01
ME	3.1215E-11
HE+	8.1516E-37
H	5.0952E-01
H+	6.1841E-05
M2	2.2955E-01

P1 = 1.00E+05 N/50-M, US1 = 1.40E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8742E+02	1.0998E+03	1.9155E+03
T	1.5555E+01	3.0508E+01	3.0549E+01
RHC	7.9917E+00	2.6633E+01	3.2509E+01
M	3.4943E+01	5.8959E+01	7.8536E+01
A	4.5265E+00	6.5134E+00	7.7968E+00
S	1.4518E+00	1.5319E+00	1.5622E+00
Z	1.1991E+00	1.3738E+00	1.4899E+00
GAME	8.7377E-01	5.6518E-01	1.0331E+00
U	1.0557E+01	3.1666E+00	3.4434E+00

SPECIES	MOLE FRACTIONS
E-	8.6433E-07
HE	2.9198E-01
ME	4.8435E-15
HE+	5.5941E-55
H	3.3212E-01
H+	5.4351E-01
M2	8.6374E-05
E-	8.3744E-05
HE	2.5477E-01
ME	5.1921E-10
HE+	5.7172E-35
H	2.6647E-27
H+	6.5523E-01
M2	7.9229E-04
E-	7.5241E-04
HE	2.3452E-01
ME	1.1427E-07
HE+	2.6647E-27
H	2.6647E-27
H+	6.5523E-01
M2	7.9229E-04
E-	1.0827E-01
HE	2.3452E-01
ME	1.1427E-07
HE+	2.6647E-27
H	2.6647E-27
H+	6.5523E-01
M2	7.9229E-04

P1 = 1.00E+05 N/50-M, US1 = 1.50E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.11574E+02	1.2837E+02	2.2943E+03
T	2.1349E+01	3.3662E+01	4.6509E+01
RHC	3.1043E+00	2.5525E+01	3.1905E+01
M	3.9692E+01	6.7595E+01	9.1192E+01
A	4.8359E+00	6.3428E+00	8.6467E+00
S	1.4988E+00	1.5477E+00	1.6739E+00
Z	1.2538E+00	1.4377E+00	1.7462E+00
GAME	4.9623E-01	5.5030E-01	1.3494E+00
U	1.1351E+01	3.5365E+00	3.9206E+00

SPECIES	MOLE FRACTIONS
E-	2.5705E-05
HE	2.7912E-01
ME	2.4143E-11
HE+	5.2054E-50
H	4.2576E-51
H+	4.0317E-01
M2	2.5572E-05
E-	2.3972E-06
HE	2.6225E-01
ME	3.8251E-09
HE+	4.5464E-50
H	6.0314E-01
H+	6.9937E-01
M2	2.5572E-05
E-	1.6703E-01
HE	2.3452E-01
ME	1.1427E-07
HE+	2.6647E-27
H	2.6647E-27
H+	6.5523E-01
M2	7.9229E-04

Table I. - Continued

 $P_1 = 100 \text{ kN/m}^2$

$P_1 = 1.00E+05 \text{ N/SG-M, JSI} = 1.60E+04 \text{ W/SEC}$				$P_1 = 1.00E+05 \text{ N/SG-M, USI} = 1.90E+04 \text{ W/SEC}$			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	REFLECTED SHOCK			STANDING SHOCK	REFLECTED SHOCK	
E-	2.4581E+02	1.4611E+03	2.6894E+03	E-	3.4542E+02	1.9397E+03	3.7822E+03
HE	2.2842E+01	3.7827E+01	5.4449E+01	HE	2.8672E+01	5.3537E+01	7.7505E+01
HE+	8.2145E+00	2.5847E+01	3.1117E+01	HE+	8.1754E+00	2.2232E+01	2.9106E+01
HE++	4.5394E+01	7.6637E+01	1.0565E+02	HE++	6.3556E+01	1.0387E+02	1.5049E+02
H	5.1627E+00	7.5124E+00	9.4593E+00	H	6.4515E+00	9.4600E+00	1.1304E+01
H+	1.5254E+00	1.5777E+00	1.6422E+00	H+	1.6333E+00	1.6767E+00	1.7395E+00
H++	1.3054E+00	1.4942E+00	1.5874E+00	H++	1.4735E+00	1.6036E+00	1.6766E+00
M	9.0315E-01	1.0252E+00	1.0440E+00	M	9.7134E-01	1.0424E+00	9.8364E-01
M+	1.0213E+01	3.0998E+00	4.4220E+00	M+	1.4373E+01	5.2819E+00	5.6127E+00
M2				M2			

$P_1 = 1.00E+05 \text{ N/SG-M, JSI} = 1.60E+04 \text{ W/SEC}$				$P_1 = 1.00E+05 \text{ N/SG-M, USI} = 1.90E+04 \text{ W/SEC}$			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	REFLECTED SHOCK			STANDING SHOCK	REFLECTED SHOCK	
E-	6.6671E-06	6.3725E-04	6.3995E-03	E-	1.0350E-04	6.9257E-03	3.4346E-02
HE	2.6971E-01	2.1423E-01	2.2048E-01	HE	2.3753E-01	2.1824E-01	2.3795E-01
HE+	6.759E-13	5.5645E-04	1.5146E-05	HE+	2.4708E-10	1.3949E-05	8.0903E-04
HE++	1.7276E-07	1.4964E-04	1.6356E-19	HE++	2.0871E-37	9.7489E-20	2.7073E-13
H	4.6844E-01	4.5602E-01	7.2006E-01	H	6.4240E-01	7.3214E-01	7.0301E-01
H+	6.6671E-06	6.3719E-04	6.3943E-03	H+	1.0050E-04	6.9519E-03	3.4160E-02
H2	2.6377E-01	1.0487E-01	4.5844E-02	H2	1.1587E-01	3.5811E-02	1.9102E-02

P1 = 1.00E+05 N/50-H, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8124E+02	2.0280E+03	4.0647E+03
T	3.1428E+01	5.6245E+01	8.3985E+01
RHC	7.5670E+00	2.1330E+01	2.9379E+01
M	7.0257E+01	1.1637E+02	1.6459E+02
A	6.9271E+00	9.4451E+00	1.1761E+01
S	1.6472E+00	1.7065E+00	1.7685E+00
Z	1.5221E+00	1.0271E+00	1.7354E+00
GAME	1.0321E+00	1.0262E+00	7.6601E-01
U	1.5374E+01	5.7339E+00	5.8950E+00

SPECIES	WILE FRACTIONS
E-	2.4672E-04
ME	2.1507E-01
ME+	5.2172E-05
ME++	5.2651E-34
H	6.8572E-01
H+	1.2151E-02
H2	2.6134E-02
	4.8355E-02

P1 = 1.00E+05 N/50-H, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.1821E+02	2.1404E+03	4.3009E+03
T	3.4727E+01	6.4942E+01	9.9962E+01
RHC	7.7001E+00	2.0019E+01	2.7597E+01
M	7.7273E+01	1.2735E+02	1.9159E+02
A	7.4861E+00	1.0384E+01	1.2171E+01
S	1.4591E+00	1.7368E+00	1.7769E+00
Z	1.5622E+00	1.6449E+00	1.7347E+00
GAME	1.0331E+00	1.0396E+00	9.5324E-01
U	1.5759E+01	6.0577E+00	6.1364E+00

SPECIES	WILE FRACTIONS
E-	6.0242E-04
FE	2.2335E-01
ME+	1.0001E-30
ME++	1.1417E-30
H	7.1065E-01
H+	2.2242E-02
H2	5.0367E-02
	6.1919E-02

P1 = 1.00E+05 N/50-H, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7754E+02	1.6252E+03	3.0916E+03
T	2.4392E+01	4.2603E+01	6.2387E+01
RHC	8.3823E+00	2.4764E+01	3.0399E+01
M	5.1112E+01	8.5036E+01	1.2035E+02
A	5.5330E+00	9.2939E+00	1.0431E+01
S	1.5624E+00	1.6127E+00	1.0772E+00
Z	1.3823E+00	1.5425E+00	1.6194E+00
GAME	6.2031E-01	1.0456E+00	1.0247E+00
U	1.2899E+01	4.3447E+00	4.9957E+00

SPECIES	WILE FRACTIONS
E-	1.6912E-05
ME	2.2722E-01
ME+	4.4536E-07
ME++	3.9355E-12
H	3.8607E-44
H+	5.3102E-01
H2	6.9599E-01
	1.5641E-03
	7.2673E-02
	1.3359E-02

P1 = 1.00E+05 N/50-H, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1094E+02	1.7747E+03	3.4505E+03
T	2.6305E+01	4.7915E+01	7.0354E+01
RHC	9.3355E+00	2.1501E+01	2.9757E+01
M	5.7171E+01	9.5777E+01	1.3744E+02
A	5.5411E+00	8.9099E+00	1.0378E+01
S	1.5595E+00	1.6550E+00	1.7793E+00
Z	1.4101E+00	1.5751E+00	1.6482E+00
GAME	9.4321E-01	1.0510E+00	1.0337E+00
U	1.2644E+01	4.8196E+00	4.8236E+00

SPECIES	WILE FRACTIONS
E-	4.1227E-05
FE	2.4554E-01
ME+	2.8115E-11
ME++	1.0007E-30
H	7.0357E-01
H+	2.2229E-02
H2	5.0367E-02
	2.3139E-02

$p_1 = 100 \text{ kN/m}^2$

P1 = 1.0C2E+C5 N/SD-M, JS1= 2.0C2E+C4 M/SEC				P1 = 1.0C1E+C6 N/SD-M, JS1= 2.0C0E+C4 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	4.563E+02	2.0239E+03	4.4822E+03	P	5.794E+02	2.6282E+03	5.1C27E+03
T	3.867E+01	7.0024E+01	5.5124E+01	Y	5.229E+01	9.5447E+01	1.0948E+02
RMC	7.3581E+03	1.9371E+01	2.6709E+01	RMC	6.7260E+00	1.7614E+01	2.5127E+02
H	8.4589E+01	1.3971E+02	1.9705E+02	H	1.095E+02	1.7662E+02	2.4649E+02
A	9.0585E+00	1.0791E+01	1.2537E+01	A	4.3780E+00	1.1917E+01	1.3567E+01
S	1.7283E+00	1.6726E+00	1.9243E+00	S	1.9360E+00	1.9394E+00	1.9022E+00
Z	1.5936E+00	1.6712E+00	1.7642E+00	Z	1.6474E+00	1.7454E+00	1.8545E+00
GAME	1.0555E+00	9.5193E-01	9.3659E-01	GAME	1.0219E+00	9.5195E-01	9.0639E-01
U	1.6359E+01	6.3562E+00	6.2791E+00	U	1.8343E+01	6.3582E+00	6.7061E+00

SPECIES		W/LE FRACTIONS		SPECIES		W/LE FRACTIONS	
E-	1.4471E-03	2.8517E-02	7.5719E-02	E-	1.0980E-02	6.3716E-02	1.1779E-01
HE	2.1963E-01	2.0005E-01	1.9372E-01	HE	2.1244E-01	1.9870E-01	1.7663E-01
HE+	1.3535E-07	3.7166E-07	4.6699E-03	HE+	2.4337E-03	2.4337E-03	1.2056E-02
HE+	2.3277E-27	1.2192E-14	1.5536E-10	HE+	1.7375E-20	1.0371E-11	5.89538E-09
H	7.4366E-01	7.1809E-01	6.4386E-01	H	7.5294E-01	6.6541E-01	5.9051E-01
H+	1.4471E-03	2.8146E-02	7.1048E-02	H+	1.0771E-02	6.1283E-02	1.2573E-01
H2	3.6825E-02	1.5821E-02	1.0088E-02	H2	1.2595E-02	9.6607E-03	7.2901E-03

P1 = 1.000E5 N/SQ-M, US1 = 2.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0537E+02	2.0502E+03	4.5674E+03
T	4.3025E+01	7.5473E+01	1.0007E+02
RHO	7.1271E+00	1.0377E+01	2.5997E+01
H	9.222E+01	1.506E+02	2.125E+02
A	4.5624E+00	4.1179E+01	1.2885E+01
S	1.750E+00	1.7890E+00	1.8510E+00
Z	1.61E+00	1.6345E+00	1.7943E+00
GAPE	1.054E+00	9.771E-01	9.247E-01
U	1.734E+01	6.0509E+00	6.4246E+00

SPECIES	FILE FRACTIONS
E-	3.9115E-02
FE	2.1609E-01
HE+	6.8005E-07
HE++	2.0241E-24
H	7.3234E-01
H+	3.9341E-02
H2	2.0404E-02

P1 = 1.000E5 N/SQ-M, US1 = 2.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.3627E+04	2.4745E+03	4.8594E+03
T	4.7655E+01	9.7526E+01	1.7483E+02
RHO	6.8871E+00	1.7873E+01	2.5417E+01
H	1.6023E+02	1.6327E+02	2.2031E+02
A	9.0522E+00	1.1552E+01	1.3244E+01
S	1.7823E+00	1.8145E+00	1.9771E+00
Z	1.632E+00	1.7193E+00	1.8243E+00
GAPE	1.046E+00	9.7354E-01	9.1422E-01
U	1.7391E+01	6.0911E+00	6.5732E+00

SPECIES	FILE FRACTIONS
E-	6.297E-03
FE	2.0194E-01
HE+	4.0553E-00
HE++	7.038E-22
H	7.554E-01
H+	6.245E-02
H2	1.773E-02

P1 = 1.00E+05 N/SQ-M, US1 = 2.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.2483E+02	2.8173E+03	5.3886E+03
T	5.670E+01	6.3347E+01	1.1414E+02
RHO	6.6170E+00	1.7528E+01	2.5031E+01
H	1.1721E+02	1.9074E+02	2.6452E+02
A	9.7237E+00	1.2274E+01	1.3918E+01
S	1.828E+00	1.8623E+00	1.9289E+00
Z	1.6627E+00	1.7728E+00	1.8865E+00
GAPE	1.0013E+00	9.4055E-01	9.985E-01
U	1.9024E+01	7.1737E+00	6.8370E+00

SPECIES	FILE FRACTIONS
E-	1.7350E-02
FE	2.1045E-01
HE+	5.2431E-07
HE++	4.9233E-18
H	7.4511E-01
H+	1.7344E-02
H2	9.7331E-03

P1 = 1.00E+05 N/SQ-M, US1 = 2.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7258E+02	3.0138E+03	5.7202E+03
T	6.1123E+01	5.6124E+01	1.1994E+02
RHO	6.5531E+00	1.7389E+01	2.5100E+01
H	1.202E+02	2.0061E+02	2.9347E+02
A	1.0053E+01	1.2623E+01	1.4283E+01
S	1.4937E+00	1.4932E+00	1.9509E+00
Z	1.6755E+00	1.8012E+00	1.9176E+00
GAPE	9.8464E-01	9.327E-01	9.916E-01
U	1.5721E+01	7.3415E+00	6.9646E+00

SPECIES	FILE FRACTIONS
E-	2.522E-02
FE	2.0830E-01
HE+	1.0335E-04
HE++	1.2647E-13
H	7.0332E-01
H+	2.5115E-02
H2	7.0141E-03

Table I. - Continued

$$P_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+05 N/SQ-M, US1 = 3.23E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.453E+22	4.425E+03	7.572E+03
T	8.032E+01	1.181E+02	1.440E+02
RHO	6.594E+00	1.910E+01	2.653E+01
H	1.770E+02	4.512E+02	3.923E+02
A	1.159E+01	1.437E+01	1.645E+01
S	1.951E+00	1.994E+00	2.068E+00
Z	1.784E+00	1.952E+00	2.085E+00
GAME	9.377E-01	8.942E-01	9.010E-01
U	2.339E+01	8.072E+00	7.729E+00

P1 = 1.30E+05 N/SQ-M, JS1 = 2.90E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.226E+02	3.246E+03	6.092E+03
T	6.526E+01	9.993E+01	1.236E+02
RHO	6.523E+00	1.774E+01	2.524E+01
H	1.356E+02	2.212E+02	3.032E+02
A	1.037E+01	1.297E+01	1.464E+01
S	1.871E+00	1.607E+00	1.574E+00
Z	1.657E+00	1.830E+00	1.949E+00
GAME	9.711E-01	9.208E-01	8.924E-01
U	2.643E+01	7.497E+00	7.395E+00

SPECIES			
MOLE FRACTIONS			
E-	3.439E-02	1.047E-01	1.593E-01
HE	2.052E-01	1.833E-01	1.575E-01
HE+	2.785E-04	7.996E-03	2.199E-02
HE++	1.983E-15	9.393E-10	8.060E-08
H	7.180E-01	6.010E-01	5.190E-01
M+	3.411E-02	9.684E-02	1.370E-01
M2	6.464E-03	6.165E-03	5.363E-03

SPECIES			
MOLE FRACTIONS			
E-	7.906E-02	1.593E-01	2.126E-01
HE	1.938E-01	1.591E-01	1.321E-01
HE+	2.240E-03	2.013E-02	3.561E-02
HE++	3.776E-12	4.141E-09	1.226E-06
H	6.443E-01	5.184E-01	4.380E-01
M+	7.682E-02	1.389E-01	1.770E-01
M2	3.623E-03	4.255E-03	3.711E-03

P1 = 1.00E+05 N/SQ-M, US1 = 2.90E+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7501E+C2	3.5029E+C3	6.5029E+C3
T	6.9246E+01	1.3467E+C2	1.2849E+C2
RHO	6.5179E+00	1.8024E+C1	2.5553E+C1
M	1.4547E+C2	2.3788E+C2	3.2416E+C2
A	1.0686E+01	1.3317E+C1	1.507CE+C1
S	1.8921E+00	1.9296E+C0	1.9983E+C0
Z	1.7171E+00	1.8623E+C0	1.9825E+C0
GAME	9.6041E-01	9.1252E-01	8.9159E-01
U	2.1164E+01	7.6473E+C0	7.2466E+C0

SPECIES	MOLE FRACTIONS
E-	4.4577E-02
HE	2.0334E-01
HE+	5.2576E-04
HE++	2.0079E-14
H	7.6237E-01
H+	4.4047E-02
H2	5.476E-03
E-	1.1859E-01
HE	1.7762E-01
HE+	1.0526E-02
HE++	2.6194E-04
H	5.7964E-01
H+	1.090CE-01
H2	5.550CE-03
E-	1.7262E-01
HE	1.5099E-01
HE+	2.5547E-02
HE++	1.7017E-07
H	4.9887E-01
H+	1.4193E-01
H2	4.8849E-03

P1 = 1.00E+05 N/SQ-M, JS1 = 3.00E+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2952E+C2	3.7821E+C3	6.5099E+C3
T	7.3064E+C1	1.0931E+C2	1.3354E+C2
RHO	1.5561E+C2	1.3350E+C1	2.5844E+C1
M	1.0394E+C1	2.5491E+C2	3.4584E+C2
A	1.5121E+C0	1.3662E+C1	1.3536E+C1
S	1.7384E+C0	1.0512E+C0	2.0228E+C0
Z	9.5164E-01	1.0904E+C0	2.0166E+C0
GAME	2.1897E+C1	3.050E-01	8.9241E-01
U	7.7874E+C0	7.7874E+C0	7.3974E+C0

SPECIES	MOLE FRACTIONS
E-	5.5543E-02
HE	2.0042E-01
HE+	1.4949E-04
HE++	1.4043E-14
H	6.0377E-01
H+	5.460CE-02
H2	4.7131E-03
E-	1.3222E-01
HE	1.7155E-01
HE+	1.3484E-02
HE++	7.2237E-07
H	5.5563E-01
H+	1.1874E-01
H2	5.5594E-03
E-	1.6925E-01
HE	1.4444E-01
HE+	2.5706E-02
HE++	4.7896E-07
H	4.8785E-01
H+	1.5716E-01
H2	4.4556E-03

P1 = 1.00E+05 N/SQ-M, US1 = 3.00E+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0700E+C3	5.1164E+C3	6.1449E+C3
T	8.7134E+C1	1.7777E+C2	1.5528E+C2
RHO	6.6537E+C0	1.7777E+C1	2.7187E+C1
M	1.9581E+C2	3.3041E+C2	4.4317E+C2
A	1.2177E+C1	1.5136E+C1	1.7554E+C1
S	1.5854E+C0	2.1334E+C0	2.1154E+C0
Z	1.9341E+C0	2.0115E+C0	2.1637E+C0
GAME	9.2264E-01	8.9159E-01	8.1659E-01
U	2.4652E+C1	9.705CE+C0	8.140CE+C0

SPECIES	MOLE FRACTIONS
E-	4.0330E-01
HE	1.8031E-01
HE+	4.4731E-03
HE++	4.4731E-11
H	6.7321E-01
H+	6.7321E-01
H2	4.0330E-01
E-	1.4507E-01
HE	1.4507E-01
HE+	1.7137E-03
HE++	1.7137E-11
H	6.7321E-01
H+	6.7321E-01
H2	1.4507E-01
E-	2.3909E-01
HE	1.2055E-01
HE+	6.1620E-03
HE++	6.1620E-11
H	6.7321E-01
H+	6.7321E-01
H2	2.3909E-01

P1 = 1.00E+05 N/SQ-M, US1 = 1.00E+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2017E+C3	5.4883E+C3	1.0453E+C4
T	6.5551E+C1	1.3073E+C2	1.5430E+C2
RHO	4.8031E+C1	2.0710E+C1	2.7669E+C1
M	2.2637E+C2	3.7211E+C2	4.0821E+C2
A	1.2732E+C1	1.5572E+C1	1.4918E+C1
S	2.0271E+C0	2.0797E+C0	2.1228E+C0
Z	1.4471E+C0	2.0477E+C0	2.137E+C0
GAME	9.1604E-01	8.9755E-01	8.3733E-01
U	2.4652E+C1	4.7099E+C0	4.6310E+C0

SPECIES	MOLE FRACTIONS
E-	1.2847E-01
HE	1.7774E-01
HE+	7.7550E-03
HE++	3.4549E-07
H	5.0237E-01
H+	1.2044E-01
H2	4.2473E-03
E-	4.1303E-01
HE	1.7431E-01
HE+	3.3710E-02
HE++	7.0296E-07
H	3.5574E-01
H+	2.7420E-01
H2	3.1330E-03
E-	2.6003E-01
HE	1.1013E-01
HE+	4.6055E-02
HE++	3.5574E-07
H	3.5574E-01
H+	2.7420E-01
H2	3.1330E-03

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Table 1. - Continued

$P_1 = 100 \text{ kW/m}^2$

$P_1 = 1.00E+05 \text{ N/SQ-M, USI} = 3.90E+04 \text{ W/SEC}$				$P_1 = 1.00E+05 \text{ N/SQ-M, USI} = 4.00E+04 \text{ W/SEC}$			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.3442E+03	6.7322E+03	1.1926E+04	P	1.6171E+03	7.5320E+02	1.7256E+04
T	9.9872E+01	1.4543E+02	1.8314E+02	T	1.1771E+02	1.7985E+02	2.3699E+02
RHO	6.9279E+00	2.1506E+01	2.8000E+01	RHO	7.2952E+00	2.7413E+01	4.9128E+01
H	2.4974E+02	4.1630E+02	5.5810E+02	H	3.5514E+02	5.6251E+02	7.6651E+02
A	1.3274E+01	1.6897E+01	2.227E+01	A	1.4544E+01	2.2221E+01	2.9674E+01
S	2.0644E+00	2.1222E+00	2.238E+00	S	2.1771E+00	2.2450E+00	2.3637E+00
Z	1.9427E+00	2.1478E+00	2.3257E+00	Z	4.1154E+00	2.7344E+00	2.5093E+00
GAME	9.0834E-01	9.0780E-01	9.6063E-01	GAME	9.9654E-01	1.6171E-01	1.3146E+00
U	2.8026E+01	9.0623E+03	9.2168E+03	U	3.2727E+01	1.7064E+01	1.1461E+01
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	1.5261E-01	2.3437E-01	2.9239E-01	E-	2.2140E-01	3.5545E-01	3.6340E-01
HE	1.6812E-01	1.2304E-01	1.0689E-01	HE	1.3630E-01	4.1504E-02	7.4587E-02
HE+	1.2044E-02	3.9912E-02	4.9574E-02	HE+	2.9110E-02	2.2097E-02	5.6085E-02
HE++	2.1454E-05	1.9521E-06	3.4161E-05	HE++	9.7051E-06	3.3211E-05	5.4630E-06
H	5.2471E-01	4.0563E-01	3.1253E-01	H	4.2011E-01	2.7531E-01	1.5644E-01
H+	1.4037E-01	1.9445E-01	2.4274E-01	H+	1.5443E-01	2.5017E-01	3.0523E-01
H2	1.9436E-03	2.5969E-03	1.8549E-03	H2	1.1015E-03	1.3915E-03	7.0075E-04

P1 = 1.00E+05 N/SQ-M, U1 = 4.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.494E+03	7.629E+03	1.9936E+04
T	1.051E+02	1.563E+02	1.9936E+02
RHO	7.0556E+00	2.1942E+01	2.4169E+01
M	2.768E+02	4.627E+02	6.6269E+02
W	1.381E+01	1.7915E+01	2.1749E+01
S	2.103E+00	2.1637E+00	2.2547E+00
Z	1.5994E+00	2.274E+00	2.4136E+00
E	9.0198E-01	9.2309E-01	9.9301E-01
U	2.9551E+01	9.5111E+00	9.8918E+00

[illegible]

P1 = 1.00E+05 N/50- μ , 'SI' = 4.23E+24 W/SEC
 C35/W 4C1C1 = TSI

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	1.6514E+03	9.5679F+03	1.6534E+04
T	1.1180E+03	1.0794E+03	2.1740F+02
BMC	7.1914F+00	2.2433E+01	2.4920E+01
M	2.0531E+02	5.1141F+02	9.9247E+02
H	1.4371E+01	1.9031F+01	2.3346E+01
Z	2.1353E+03	2.2903F+00	2.2498E+00
Z	2.3565E+00	2.2400F+00	2.5024E+00
GAME	8.5794E+01	6.4178F+01	1.6014E+00
H	3.11E+021	1.6033E+01	1.0655F+01

SPECIES	MOLE FRACTIONS	
1-	1.0913E-01	2.4115E-01
1+	1.4723E-01	2.0375E-01
ME+	2.2905E-02	4.0498E-02
ME+	3.2238E-03	1.3944E-05
H	4.5324E-01	3.3145E-01
4+	1.7626E-01	2.3229E-01
42	1.3742E-01	1.7337E-03
		6.9493E-04
		2.7402E-01
		2.3359E-01
		2.3116E-04
		5.4221E-02
		8.5330E-02
		3.4164E-01

01 = 1.00E+00 N/SU-M, 'JS' = 4.60E+04 W/SEC

P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
1	1.5903E+02	1.4523E+04	1.0304E+04
2	1.2366E+02	1.6247E+02	2.5784E+02
3	7.4224E+00	2.2299E+01	2.9037E+01
4	3.6645E+02	6.1465E+02	6.4456E+02
5	1.5534E+01	2.1456E+01	2.3651E+01
6	2.2141E+00	2.2848E+00	2.3657E+00
7	2.1747E+00	2.4337E+00	2.6734E+00
8	8.5784E-01	5.8076E-01	1.0209E+00
9	3.6295E-01	1.3121E+01	1.2313E+01

SPECIES	WILE FRACTIONS	
F-	2.4236E-04	3.2447E-01
FE	1.2518E-01	9.5669E-02
ME+	3.3358E-02	7.7745E-02
ME++	2.6240E-07	5.0556E-05
M	3.8852E-01	2.6141E-01
F+	2.0553E-01	2.0954E-01
M2	5.8304E-04	1.0586E-03
		4.9781E-04
		3.0261E-01
		7.2091E-02
		5.7800E-02
		1.1868E-03
		1.6339E-01
		3.2244E-01
		4.9781E-04

01 = 1. CCF + C5 N/50-4, 151 = 4. 00 + C6 W/SEC

	MOVING SINCE	STAYING SMOCK	REFLECTED SMOCK
P	2,171,267.3	1,152,535.04	2,142,115.04
T	1,295,187.07	2,075,535.02	2,075,535.02
IRL	7,485,110.00	2,243,377.01	7,075,056.01
H	3,997,186.2	6,670,907.02	9,266,757.02
A	1,617,110.01	2,271,332.01	2,759,220.01
Z	2,421,100.00	2,323,110.00	2,476,370.00
Z	2,235,000.00	2,511,540.00	2,746,660.00
G	9,327,000.01	1,073,727.01	1,073,727.01
U	3,559,400.01	1,257,500.01	1,314,000.01

SPECIES	FILE	PLANTING
L	264731-01	304945-01
M	1015,01-01	002611-02
ME	010,01-02	505041-02
ML	607,05-07	000000-04
P	309,11-01	200091-01
H	202,01-01	303931-01
H2	007,05-07	000110-04

P1 = 1.00E+05 N/50-M, US1 = 5.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1748E+03	1.6275E+04	3.2085E+04
T	1.4445E+02	2.8152E+02	3.0984E+02
RHO	7.5517E+00	2.0366E+01	2.6919E+01
M	5.8244E+02	9.6716E+02	1.3758E+03
A	2.0090E+01	2.8564E+01	3.4446E+01
S	2.4351E+00	2.5018E+00	2.6116E+00
Z	2.5445E+00	2.8387E+00	3.0575E+00
GAME	9.6006E-01	1.0209E+00	1.0071E+00
U	4.3384E+01	1.6063E+01	1.6911E+01

SPECIES	MOLE FRACTIONS
E-	3.5487E-01
HE	7.1761E-02
ME+	6.5117E-02
HF+	2.8785E-05
M	2.1826E-01
M+	3.4757E-01
M2	2.6810E-04

P1 = 1.00E+05 N/50-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3932E+03	1.7169E+04	3.4084E+04
T	1.7275E+02	2.9776E+02	4.1232E+02
RHO	7.4939E+00	1.9926E+01	2.6565E+01
M	6.2308E+02	1.0321E+03	1.4727E+03
A	2.1020E+01	2.9569E+01	3.6062E+01
S	2.4707E+00	2.4354E+00	2.4462E+00
Z	2.6711E+00	2.8938E+00	3.1117E+00
GAME	9.7584E-01	1.0147E+00	1.0134E+00
U	4.4682E+01	1.6803E+01	1.7605E+01

SPECIES	MOLE FRACTIONS
E-	3.7072E-01
HE	6.5951E-02
ME+	6.8123E-02
HF+	5.3731E-03
M	1.9205E-02
M+	3.0748E-01
M2	2.2143E-04

P1 = 1.00E+05 N/50-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5532E+03	1.3481E+04	2.5764E+04
T	1.4245E+02	2.3469E+02	3.2402E+02
RHO	7.5911E+00	2.1644E+01	2.7591E+01
M	4.6843E+02	7.8304E+02	1.0955E+03
A	1.7575E+01	2.5212E+01	3.0488E+01
S	2.3256E+00	2.5374E+00	2.5039E+00
Z	2.3611E+00	2.6543E+00	2.9919E+00
GAME	9.1877E-01	1.0205E+00	1.0085E+00
U	3.9915E+01	1.3635E+01	1.4779E+01

SPECIES	MOLE FRACTIONS
E-	3.0174E-01
HE	9.5636E-02
ME+	5.2597E-02
HF+	3.2940E-06
M	3.0032E-01
M+	2.4914E-01
M2	5.6837E-04

P1 = 1.00E+05 N/50-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7537E+03	1.4417E+04	2.7873E+04
T	1.4940E+02	2.4963E+02	3.4568E+02
RHO	7.5961E+00	2.1247E+01	2.7404E+01
M	5.0511E+02	8.4248E+02	1.1885E+03
A	1.8371E+01	2.6373E+01	3.1564E+01
S	2.3633E+00	2.4323E+00	2.5403E+00
Z	2.4265E+00	2.7182E+00	2.9424E+00
GAME	9.3333E-01	1.0250E+00	1.0045E+00
U	4.0410E+01	1.4459E+01	1.5691E+01

SPECIES	MOLE FRACTIONS
E-	3.2047E-01
HE	6.6977E-02
ME+	5.7427E-02
HF+	7.3227E-03
M	2.7181E-01
M+	2.6322E-01
M2	4.5564E-04

Table 1. - Concluded

$$P_1 = 100 \text{ kN/m}^2$$

PI = 1.00E+05 N/SQ-M, USI = 6.20E+04 M/SEC				PI = 1.00E+05 N/SQ-M, USI = 6.80E+04 M/SEC			
SPECIFS	MOLE FRACTIONS			SPECIFS	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6170E+02	1.8021E+04	7.5984E+C4	P	4.3204E+02	7.0498E+C4	4.1431E+C4
T	1.8178E+02	3.1360E+02	4.3844E+02	T	2.1270E+02	3.4154E+02	5.1413E+02
PHO	7.4508E+C0	1.9518E+C1	2.4113E+C1	PHO	7.0960E+C0	1.8358E+C1	2.4381E+C1
M	4.4457E+02	1.0988E+02	1.5726E+02	M	7.9834E+02	1.3097E+03	1.8904E+C3
A	2.2001E+01	3.0518E+C1	3.7547E+C1	A	2.5012E+01	3.2447E+C1	4.2489E+C1
S	2.5001E+C0	2.4680E+C0	2.6805E+C0	S	2.6038E+C0	2.6630E+C0	2.7812E+C0
Z	2.6857E+C0	2.9446E+C0	3.1640E+C0	Z	2.8424E+C0	3.0876E+C0	3.3052E+C0
GAMF	9.9165E+C1	1.7084E+C0	1.0230E+C0	GAMF	1.0275E+C0	1.7019E+C0	1.0624E+C0
U	4.6242E+01	1.7507E+01	1.8217E+01	U	5.0344E+01	1.9429E+01	2.0597E+01
E-	7.8640E-C1	4.2975E-C1	4.7885E-C1	E-	4.2263E-C1	4.6544E-C1	5.0081E-C1
MF	5.9500E-C2	4.5074E-C2	2.1970E-C2	MF	4.5222E-C2	3.0344E-C2	9.9710E-C2
ME+	7.0711E-C2	6.5908E-C2	5.9379E-C2	ME+	7.6277E-C2	6.4177E-C2	5.1116E-C2
M	1.7968E-C4	7.8790E-C2	2.9291E-C2	M	7.1534E-C4	1.8817E-C2	4.4806E-C2
M+	1.4884E-C1	8.3208E-C2	5.0194E-C2	M+	1.0810E-C1	5.7122E-C2	3.3201E-C2
M2	3.1484E-C1	3.5809E-C1	5.6059E-C1	M2	3.4533E-C1	3.6381E-C1	3.6006E-C1
	1.6670E-C4	9.4269E-C5	4.7740E-C5		6.3820E-C5	4.3895E-C5	2.0651E-C5

P1 = 1.00E+05 M/50-M, US1= 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5236E+02	2.1283E+04	4.2162E+04
T	2.2429E+02	3.7822E+02	5.4391E+02
BM	6.9778E+00	1.7959E+01	2.3724E+01
M	8.4527E+02	1.3831E+03	2.0032E+03
A	2.5787E+01	3.4512 E1	4.4251E+01
S	2.6353E+00	2.6944E+00	2.8134E+00
Z	2.9146E+00	3.1334E+00	3.3450E+00
GAME	1.0119E+00	1.0050E+00	1.0763E+00
U	5.1799E+01	1.9999E+01	2.1465E+01

SPECIES	MOLE FRACTIONS
E-	4.3394E-01
HF	4.1724E-02
MF+	7.7532E-02
HE++	1.2775E-03
H	9.2044E-02
M+	3.5345E-01
M2	4.4257E-05
	4.7344E-01
	2.4814E-02
	6.2512E-02
	2.3375E-02
	5.0644E-02
	3.6418E-01
	3.3329E-05
	5.0674E-01
	7.2594E-03
	4.7694E-02
	4.9585E-02
	2.8738E-02
	3.4987E-01
	1.5148E-05

P1 = 1.00E+05 M/50-M, US1= 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8642E+03	1.8943E+04	3.7835E+04
T	1.9143E+02	3.2930E+02	4.6018E+02
BM	7.3115E+00	1.9132E+01	2.5570E+01
M	7.0814E+02	1.1673E+03	1.6752E+03
A	2.3907E+01	3.1451E+01	3.9124E+01
S	2.5300E+00	2.5997E+00	2.7148E+00
Z	2.7478E+00	2.9932E+00	3.2144E+00
GAME	1.0050E+00	1.0030E+00	1.0349E+00
U	4.7637E+01	1.8176E+01	1.9045E+01

SPECIES	MOLE FRACTIONS
E-	4.4083E-01
HF	4.0041E-02
MF+	4.5878E-02
HE++	1.0071E-02
H	7.3155E-02
M+	3.6191E-01
M2	7.1977E-05
	4.8071E-01
	1.7250E-02
	5.7045E-02
	3.4579E-02
	4.2354E-02
	3.6051E-01
	3.6261E-05

P1 = 1.00E+05 M/50-M, US1= 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0004E+03	1.9403E+04	3.9634E+04
T	2.0181E+02	3.4548E+02	4.8420E+02
BM	7.2028E+00	1.8734E+01	2.4604E+01
M	7.5963E+02	1.2377E+03	1.7814E+03
A	2.4724E+01	3.2430E+01	4.0770E+01
S	2.5722E+00	2.6317E+00	2.7483E+00
Z	2.8074E+00	3.0413E+00	3.2211E+00
GAME	1.0187E+00	1.0015E+00	1.0483E+00
U	4.0012E+01	1.8819E+01	1.9888E+01

SPECIES	MOLE FRACTIONS
E-	4.1234E-01
HF	4.5722E-02
MF+	3.5107E-02
HE++	1.0071E-02
H	1.4674E-02
M+	4.4477E-02
M2	2.6287E-01
	5.0238E-05
	4.9412E-01
	1.3264E-02
	4.2788E-02
	3.8227E-02
	3.4071E-01
	3.7784E-05

Table 11.- Nondimensional Thermodynamic Properties and Flow Velocity for Incident (moving), Standing, and Reflected Normal Shocks in a 0.20He-0.80H₂ Mixture

[User cautioned about using table at pressures exceeding
10 MN/m² and temperatures exceeding 25 000 K]

$$p_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SC-M, US1 = 4.00E+03 M/SEC				P1 = 5.00E+00 N/SC-M, US1 = 7.00E+03 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	MOVING SHOCK		REFLECTED SHOCK	SPECIES
	STANDING SHOCK			STANDING SHOCK			
E-	1.1174E-48	4.2647E-26	1.0712E-20	4.0163E+01	1.7052E+02	2.7648E+02	E-
HE	2.0000E-01	2.0000E-01	1.9988E-01	4.8991E+00	8.3559E+00	9.9723E+00	HE
HE+	2.5193E-6	5.0600E-58	1.1249E-48	5.7675E+00	1.5211E+01	2.7753E+01	HE+
H	0.	0.	0.	8.1245E+00	1.2693E+01	1.5741E+01	H
A	5.5422E-09	1.7687E-06	1.1769E-03	2.4106E+00	2.6577E+00	2.7995E+00	A
S	7.2402E-20	7.2402E-22	8.3072E-20	1.1263E+00	1.1426E+00	1.1647E+00	S
U	8.0000E-01	8.0000E-01	7.9894E-01	1.0129E+00	1.0129E+00	1.1010E+00	U
Z	9.9100E-01	9.8098E-01	2.3974E-01	8.2162E-01	7.9544E-01	7.9191E-01	Z
GAME	9.9100E-01	9.8098E-01	2.3974E-01	8.2162E-01	7.9544E-01	7.9191E-01	GAME
U	2.4570E+00	1.4729E+00	1.3009E+00	4.7114E+00	1.4204E+00	1.2410E+00	U
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.1174E-48	4.2647E-26	1.0712E-20	3.7767E-14	3.8814E-13	4.0556E-12	E-
HE	2.0000E-01	2.0000E-01	1.9988E-01	1.9745E-01	1.8824E-01	1.8123E-01	HE
HE+	2.5193E-6	5.0600E-58	1.1249E-48	2.3245E-40	2.4155E-33	1.7724E-21	HE+
H	0.	0.	0.	0.	0.	0.	H
A	5.5422E-09	1.7687E-06	1.1769E-03	2.4465E-02	1.1764E-01	1.8674E-01	A
S	7.2402E-20	7.2402E-22	8.3072E-20	3.7774E-14	3.8814E-13	4.0556E-12	S
U	8.0000E-01	8.0000E-01	7.9894E-01	7.7708E-01	6.9412E-01	6.3193E-01	U

P1 = 5.00E+00 M/50-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9812E+01	5.2557E+01	1.1297E+02
T	4.406CE+00	5.8647E+00	7.2781E+00
RMD	4.4964E+00	8.9481E+00	1.5292E+01
M	4.5442E+00	6.2600E+00	8.7197E+00
A	2.0723E+00	2.3309E+00	2.4768E+00
S	1.0764E+00	1.0800E+00	1.0964E+00
Z	1.0000E+00	1.0011E+00	1.0154E+00
GAME	9.7470E-01	9.2536E-01	8.3024E-01
U	3.1954E+00	1.6049E+00	1.3298E+00

SPECIES	MOLE FRACTIONS	
E-	2.5379E-32	4.8662E-16
HF	2.0000E-01	1.9977E-01
ME+	3.2608E-56	6.3133E-47
ME++	0.	0.
H	2.2689E-04	2.2464E-03
M+	7.2401E-20	3.0591E-19
M2	7.9998E-01	7.9794E-01

P1 = 5.00E+00 M/50-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8929E+01	9.6444E+01	1.7574E+02
T	5.7913E+00	7.3504E+00	8.2142E+00
RMD	4.9724E+00	1.2794E+01	2.0700E+01
M	6.1810E+00	9.1076E+00	1.1643E+01
A	2.3116E+00	2.4860E+00	2.6742E+00
S	1.1014E+00	1.1092E+00	1.1291E+00
Z	1.0012E+00	1.0199E+00	1.0509E+00
GAME	9.2157E-01	8.1983E-01	7.8894E-01
U	3.9397E+00	1.4303E+00	1.2773E+00

SPECIES	MOLE FRACTIONS	
E-	1.0742E-19	4.8843E-14
HF	1.9976E-01	1.9600E-01
ME+	1.6474E-46	4.1003E-39
ME++	0.	0.
H	2.4268E-02	3.0057E-02
M+	3.5107E-20	4.8503E-19
M2	7.9781E-01	7.8494E-01

P1 = 5.00E+00 M/50-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.3843E+01	2.8429E+02	4.2841E+02
T	7.6170E+00	9.1317E+00	9.4731E+00
RMD	5.8147E+00	2.7581E+01	2.7875E+01
M	1.0392E+01	1.6567E+01	2.0647E+01
A	2.5127E+00	2.8454E+00	2.9935E+00
S	1.1534E+00	1.1814E+00	1.2057E+00
Z	1.0375E+00	1.1207E+00	1.1457E+00
GAME	7.8019E-01	7.8017E-01	7.9213E-01
U	5.5095E+00	1.3644E+00	1.2335E+00

SPECIES	MOLE FRACTIONS	
E-	2.6148E-14	4.5940E-12
HF	1.9269E-01	1.7847E-01
ME+	8.0434E-37	1.4233E-30
ME++	0.	0.
H	7.3045E-02	2.4837E-01
M+	2.6148E-14	4.5940E-12
M2	7.4424E-01	6.0422E-01

P1 = 5.00E+00 M/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9366E+01	4.4812E+02	6.3947E+02
T	8.1348E+00	9.2311E+00	1.0341E+01
RMD	7.9742E+00	2.5727E+01	4.9719E+01
M	1.2067E+01	2.1848E+01	2.6819E+01
A	2.6233E+00	3.0445E+00	3.2047E+00
S	1.1814E+00	1.2284E+00	1.2776E+00
Z	1.0719E+00	1.1909E+00	1.2484E+00
GAME	7.8019E-01	7.8012E-01	7.8843E-01
U	4.4483E+00	1.3642E+00	1.2416E+00

SPECIES	MOLE FRACTIONS	
E-	2.7052E-12	5.3149E-11
HF	1.8647E-01	1.6790E-01
ME+	1.2862E-34	1.1608E-28
ME++	0.	0.
H	1.2417E-01	3.2047E-01
M+	3.0408E-13	5.2350E-11
M2	5.7924E-01	6.1108E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$p_1 = 5 \text{ N/m}^2$$

p1 = 5.00E+00 N/SG-M, US1= 1.00E+04 M/SEC					p1 = 5.00E+00 N/SG-M, US1= 1.30E+04 M/SEC				
		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P		8.7178E+01	6.4924E+02	9.1064E+02	P		1.5124E+02	1.5925E+03	2.1108E+03
Y		8.5693E+00	1.0475E+01	1.1004E+01	Y		9.5524E+00	1.27587E+01	1.3788E+01
RHO		9.1413E+00	4.9502E+01	6.1804E+01	RHO		1.2321E+01	8.0750E+01	9.3339E+01
M		1.5818E+01	2.7311E+01	3.1848E+01	M		2.6179E+01	4.7079E+01	5.4087E+01
A		2.7378E+00	3.2547E+00	3.4349E+01	A		3.1102E+00	4.7294E+00	4.3804E+00
S		1.2164E+00	1.2738E+00	1.3100E+00	S		1.2310E+00	1.4395E+00	1.4884E+00
Z		1.1128E+00	1.2716E+00	1.3387E+00	Z		1.2702E+00	1.5668E+00	1.6455E+00
GAME		7.8599E-01	7.9624E-01	8.0077E-01	GAME		7.8814E-01	8.231E-01	8.4851E-01
U		7.3190E+00	1.3519E+00	1.2703E+00	U		9.8142E+00	1.4978E+00	1.4929E+00
SPECIES					SPECIES				
----- MOLE FRACTIONS -----					----- MOLE FRACTIONS -----				
E-		1.7948E-12	3.0077E-10	1.0203E-09	E-		7.2432E-11	2.1652E-08	1.0049E-07
HE		1.7972E-01	1.5729E-01	1.4940E-01	HE		1.5745E-01	1.2765E-01	1.2014E-01
HE+		8.0016E-33	9.5687E-28	8.5709E-24	HE+		3.7161E-20	1.3198E-22	6.4179E-21
HE++		0.	0.	0.	HE++		0.	3.27E-2E-04	1.4614E-77
H		2.0276E-01	4.2714E-01	5.0598E-01	H		4.2554E-01	7.2347E-01	7.9848E-01
H+		1.7948E-12	3.0077E-10	1.0203E-09	H+		7.2632E-11	2.1652E-08	1.0049E-07
H2		6.1752E-01	4.157E-01	3.4462E-01	H2		4.1701E-01	1.4887E-01	8.1369E-02

P1 = 5.00E+00 M/SO-M, US1= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0667E+02	9.2079E+02	1.2445E+03
T	8.950E+00	1.1124E+01	1.1700E+01
RHO	1.0272E+01	6.0780E+01	7.5884E+01
M	1.8975E+01	3.3338E+01	3.8932E+01
A	2.8562E+00	3.4856E+00	3.6905E+00
S	1.2422E+00	1.3261E+00	1.3664E+00
Z	1.1598E+00	1.3619E+00	1.4389E+00
GAME	7.8449E-01	8.0193E-01	8.0860E-01
U	8.1587E+00	1.3792E+00	1.3165E+00

SPECIES ----- MOLE FRACTIONS -----

E-	7.2124E-12	1.3503E-09	4.2208E-09
HE	1.7245E-01	1.4685E-01	1.3899E-01
ME+	7.0621E-32	1.2078E-24	2.9186E-24
ME++	0.	0.	4.1999E-89
H	2.7527E-01	5.3147E-01	6.1007E-01
M+	7.2124E-12	1.3503E-09	4.2208E-09
M2	5.4263E-01	5.2140E-01	2.5093E-01

P1 = 5.00E+00 M/SO-M, US1= 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2892E+02	1.2225E+03	1.6422E+03
T	9.3147E+00	1.1806E+01	1.2504E+01
RHO	1.1374E+01	7.1460E+01	8.4852E+01
M	2.2428E+01	3.9272E+01	4.5914E+01
A	2.9800E+00	3.7380E+00	3.9880E+00
S	1.2907E+00	1.3814E+00	1.4241E+00
Z	1.2125E+00	1.4408E+00	1.5485E+00
GAME	7.8623E-01	8.1013E-01	8.2124E-01
U	8.9895E+00	1.4001E+00	1.3899E+00

SPECIES ----- MOLE FRACTIONS -----

E-	7.4422E-11	9.2970E-09	1.8638E-08
HE	1.4497E-01	1.3691E-01	1.2914E-01
ME+	1.7544E-31	6.5288E-24	1.1142E-23
ME++	0.	0.	2.0979E-83
H	2.7527E-01	5.3147E-01	6.1007E-01
M+	7.2124E-12	1.3503E-09	4.2208E-09
M2	5.4263E-01	5.2140E-01	2.5093E-01

P1 = 5.00E+00 M/SO-M, US1= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7629E+02	1.9937E+03	2.6663E+03
T	1.0002E+01	1.3635E+01	1.9296E+01
RHO	1.5219E+01	8.7290E+01	9.4508E+01
M	3.0227E+01	5.4766E+01	6.3508E+01
A	3.2476E+00	4.4115E+00	5.2434E+00
S	1.3751E+00	1.4584E+00	1.5545E+00
Z	1.3333E+00	1.6751E+00	1.7712E+00
GAME	7.9700E-01	8.5188E-01	9.7452E-01
U	1.0634E+01	1.6107E+00	1.7285E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.8402E-10	1.1207E-07	1.9320E-06
HE	1.5000E-01	1.1939E-01	1.1292E-01
ME+	2.1499E-28	8.1909E-21	1.1059E-17
ME++	0.	0.	1.2290E-65
H	4.0097E-01	8.0507E-01	8.7082E-01
M+	1.8602E-10	1.1207E-07	1.9320E-06
M2	5.5003E-01	7.4532E-02	1.6259E-02

P1 = 5.00E+00 M/SO-M, US1= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0314E+02	2.4095E+03	3.2914E+03
T	1.2313E+01	1.9641E+01	2.3884E+01
RHO	1.4005E+01	8.7137E+01	7.8986E+01
M	3.6572E+01	6.2918E+01	7.5054E+01
A	3.3944E+00	5.1963E+00	6.8824E+00
S	1.4204E+00	1.5557E+00	1.4175E+00
Z	1.4013E+00	1.7679E+00	1.8002E+00
GAME	7.9137E-01	9.0150E-01	1.1193E+00
U	1.1414E+01	1.8399E+00	2.4357E+00

SPECIES ----- MOLE FRACTIONS -----

E-	4.7127E-10	1.4678E-06	6.8714E-04
HE	1.4271E-01	1.1313E-01	1.1110E-01
ME+	2.1802E-27	5.1982E-18	1.9449E-14
ME++	0.	0.	4.8629E-33
H	5.7727E-01	8.4873E-01	8.8727E-01
M+	4.7127E-10	1.4678E-06	6.8714E-04
M2	2.8444E-01	1.8139E-02	4.6844E-02

Table II. - Continued

$$p_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SQ-M, US1= 1.90E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.277E+02	3.906E+03	6.2137E+03
T	1.2340E+01	3.3886E+01	3.9834E+01
PMO	1.5536E+01	6.3064E+01	8.0532E+01
H	5.4917E+01	9.9431E+01	1.2497E+02
A	4.2263E+00	7.4825E+00	8.1114E+00
S	1.6172E+00	1.7059E+00	1.7581E+00
Z	1.7087E+00	1.8487E+00	1.9369E+00
GAME	8.4654E-01	9.0166E-01	8.5272E-01
U	1.4408E+01	3.6015E+00	3.4920E+00
SPECIES ----- MOLE FRACTIONS -----			
F-	3.3755E-08	2.6543E-02	7.0699E-02
HF	1.1704E-01	1.0817E-01	1.0325E-01
HE+	9.1744E-23	1.7924E-07	4.2031E-06
HE++	8.6856E-85	3.3475E-30	1.1367E-23
H	8.2937E-01	8.3863E-01	7.5533E-01
M+	3.3744E-09	2.6543E-02	7.0699E-02
M2	5.3547E-02	6.7532E-05	2.2514E-05

P1 = 5.00E+00 N/SQ-M, US1= 1.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3180E+02	2.7748E+03	4.1574E+03
T	1.0722E+01	2.0294E+01	3.0640E+01
PMO	1.4549E+01	7.5684E+01	7.4685E+01
H	3.9211E+01	7.1299E+01	8.8841E+01
A	3.5738E+00	4.4534E+00	7.3111E+00
S	1.4480E+00	1.6047E+00	1.6617E+00
Z	1.4727E+00	1.7978E+00	1.8168E+00
GAME	7.9927E-01	1.1360E+00	9.6023E-01
U	1.2251E+01	2.3760E+00	2.9929E+00
SPECIES ----- MOLE FRACTIONS -----			
F-	1.1924E-09	9.4783E-05	9.2134E-03
HF	1.3571E-01	1.1123E-01	1.1099E-01
HE+	2.6738E-76	1.8454E-13	2.0410E-08
HE++	0.	1.1350E-10	4.3176E-32
H	6.4294E-01	8.9722E-01	8.7120E-01
M+	1.1934E-09	9.4783E-05	9.2134E-03
M2	2.2134E-01	1.3384E-02	8.6417E-05

P1 = 5.00E+00 N/SQ-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6221E+02	3.1196E+03	4.8930E+03
T	1.1134E+01	2.6090E+01	3.4732E+01
RMD	1.5192E+01	6.6309E+01	7.6162E+01
M	4.4144E+01	7.9992E+01	1.0083E+02
A	3.7307E+00	7.0856E+00	7.5646E+00
S	1.5165E+00	1.8431E+00	1.6955E+00
Z	1.5902E+00	1.8032E+00	1.8497E+00
GAME	8.0641E-01	1.0672E+00	8.9068E-01
U	1.3070E+01	2.9910E+00	3.2519E+00

SPECIES	MOLE FRACTIONS
E-	3.0182E-09
HE	1.2902E-01
ME+	2.3422E-25
ME++	C.
M	7.0984E-01
M+	3.0182E-09
M2	1.6114E-01

P1 = 5.00E+00 N/SQ-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9428E+02	3.4990E+03	5.4977E+03
T	1.1637E+01	3.0705E+01	3.7488E+01
RMD	1.5422E+01	6.2737E+01	7.8760E+01
M	4.9399E+01	8.9317E+01	1.1279E+02
A	3.9395E+00	7.2791E+00	7.8393E+00
S	1.5669E+00	1.6756E+00	1.7268E+00
Z	1.5295E+00	1.8188E+00	1.9008E+00
GAME	8.1859E-01	9.4963E-01	8.6464E-01
U	1.3838E+01	3.4280E+00	3.3941E+00

SPECIES	MOLE FRACTIONS
E-	8.5225E-09
HE	1.2274E-01
ME+	2.9701E-24
ME++	9.0810E-01
M	7.7211E-01
M+	8.4225E-09
M2	1.0455E-01

P1 = 5.07E+00 N/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6189E+02	4.1213E+03	4.5033E+03
T	1.3760E+01	3.6404E+01	4.1591E+01
RMD	1.4816E+01	4.0281E+01	4.7872E+01
M	6.0717E+01	1.0573E+02	1.3706E+02
A	4.8216E+00	7.7142E+00	8.3401E+00
S	1.4641E+00	1.7385E+00	1.7914E+00
Z	1.7711E+00	1.8858E+00	1.9855E+00
GAME	9.4179E-01	8.6944E-01	8.4634E-01
U	1.5325E+01	3.7697E+00	3.5516E+00

SPECIES	MOLE FRACTIONS
E-	3.2925E-07
HE	1.1267E-01
ME+	2.7727E-20
ME++	1.5442E-75
M	8.7331E-01
M+	3.2925E-07
M2	1.4021E-02

P1 = 5.00E+00 N/SQ-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9444E+02	3.9374E+03	6.0966E+03
T	1.7095E+01	3.6175E+01	4.2736E+01
RMD	1.2840E+01	5.3644E+01	7.0157E+01
M	5.6788E+01	1.1975E+02	1.6818E+02
A	5.9099E+00	7.9041E+00	8.542E+00
S	1.7088E+00	1.7723E+00	1.8291E+00
Z	1.7905E+00	1.9227E+00	2.0344E+00
GAME	1.1370E-01	8.118E-01	8.4206E-01
U	1.5912E+01	3.8103E+00	3.6550E+00

SPECIES	MOLE FRACTIONS
E-	1.6814E-05
HE	1.1123E-01
ME+	5.6568E-16
ME++	3.4146E-60
M	8.8761E-01
M+	1.4814E-04
M2	1.1292E-05

Table II. - Continued

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SQ-M, US1= 2.20E+04 M/SEC				P1 = 5.00E+00 N/SQ-M, US1= 2.50E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2694E+02	3.7248E+03	5.6432E+03	P	5.4313E+02	4.2563E+03	6.1764E+03
T	2.1430E+01	2.9411E+01	4.3656E+01	T	3.0479E+01	4.3543E+01	4.7235E+01
RHO	1.1065E+01	4.7967E+01	6.2096E+01	RHO	9.6616E+00	4.6181E+01	9.0011E+01
M	7.2995E+01	1.2984E+02	1.5910E+02	M	9.3731E+01	1.8577E+02	1.9915E+02
A	6.5793E+00	8.0919E+00	8.7333E+00	A	7.0109E+00	8.7764E+00	9.4494E+00
S	1.7442E+00	1.8121E+00	1.8665E+00	S	1.8245E+00	1.9082E+00	1.9681E+00
Z	1.8004E+00	1.9654E+00	2.0817E+00	Z	1.8444E+00	2.1167E+00	2.2540E+00
GAME	1.1219E+00	8.4320E-01	8.3926E-01	GAME	8.7436E-01	8.3571E-01	8.3866E-01
U	1.8443E+01	3.7931E+00	3.5655E+00	U	1.8417E+01	3.8740E+00	3.8763E+00
SPECIES				SPECIES			
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
E-	4.7820E-04	8.4172E-02	1.3433E-01	E-	2.4078E-02	1.4962E-01	2.0143E-01
HE	1.1107E-01	1.0174E-01	9.0053E-02	HE	1.0844E-01	9.4462E-02	8.8649E-02
HE+	2.5421E-12	4.6715E-06	2.2837E-04	HE+	4.9864E-08	2.5284E-05	8.2051E-05
He++	5.1807E-47	1.1183E-23	4.5236E-21	He++	2.1182E-31	5.2371E-21	4.6888E-19
H	8.6784E-01	7.7989E-01	6.3329E-01	H	8.4340E-01	6.0629E-01	5.0049E-01
H+	4.7820E-04	8.4167E-02	1.3530E-01	H+	2.4078E-02	1.4960E-01	2.0135E-01
H2	1.3207E-04	1.3125E-05	9.5071E-05	H2	1.0936E-05	6.5110E-06	4.6399E-06

P1 = 5.00E+00 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8805E+02	4.6827E+03	6.7355E+03
T	3.2186E+01	4.4944E+01	4.8631E+01
RHO	9.7604E+00	4.7899E+01	5.9685E+01
M	1.0132E+02	1.7480E+02	2.1490E+02
A	7.1647E+00	9.0400E+00	9.7372E+00
S	1.8488E+00	1.9391E+00	2.0012E+00
Z	1.8719E+00	2.1752E+00	2.3204E+00
GAME	8.5207E-01	8.3592E-01	8.4017E-01
U	1.9176E+01	3.9084E+00	3.7457E+00

SPECIES ----- MOLE FRACTIONS -----

F-	3.8420E-02	1.7249E-01	2.2433E-01
HF	1.0684E-01	9.1904E-02	8.6040E-02
HE+	1.7043E-07	4.1474E-05	1.2570E-04
M	8.1431E-01	3.3408E-20	2.2812E-18
M+	3.8419E-02	5.6310E-01	4.6527E-01
M2	7.9407E-04	1.7245E-01	2.2420E-01
		5.3462E-06	3.7474E+06

P1 = 5.00E+00 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3436E+02	5.1749E+03	7.3896E+03
T	3.2612E+01	4.4341E+01	5.0069E+01
RHO	9.9335E+00	4.9926E+01	6.1738E+01
M	1.0923E+02	1.9418E+02	2.3158E+02
A	7.3288E+00	9.3135E+00	1.0040E+01
S	1.8730E+00	1.9702E+00	2.0347E+00
Z	1.9029E+00	2.2368E+00	2.3904E+00
GAME	8.3976E-01	8.2684E-01	8.4223E-01
U	1.9944E+01	3.9711E+00	3.8264E+00

SPECIES ----- MOLE FRACTIONS -----

F-	5.4084E-02	1.9527E-01	2.4704E-01
HF	1.9519E-01	8.9350E-02	8.3472E-02
HE+	4.3045E-07	6.8144E-04	1.9034E-04
M	5.6112E-28	1.8557E-19	1.0698E-17
M+	7.8672E-01	5.2011E-01	4.2244E-01
M2	5.4944E-02	1.9520E-01	2.6685E-01
	6.1788E-06	4.3148E-06	3.0044E-04

P1 = 5.00E+00 N/SQ-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4196E+02	3.7121E+03	5.4221E+03
T	2.5387E+01	4.0780E+01	4.4678E+01
RHO	1.0071E+01	4.5249E+01	5.7929E+01
M	7.9544E+01	1.4072E+02	1.7096E+02
A	6.8021E+00	8.2933E+00	8.9372E+00
S	1.7737E+00	1.8455E+00	1.9014E+00
Z	1.8948E+00	2.0198E+00	2.1336E+00
GAME	1.0087E+00	8.2874E-01	8.3790E-01
U	1.7021E+01	3.7903E+00	3.5782E+00

SPECIES ----- MOLE FRACTIONS -----

F-	1.7981E-03	1.0486E-01	1.5636E-01
HF	1.1069E-01	9.9453E-02	9.3704E-02
HE+	4.5040E-10	8.4159E-06	3.4361E-05
M	8.8149E-01	9.2434E-20	1.9299E-20
M+	3.7981E-03	4.9082E-01	5.0357E-01
M2	3.5434E-05	1.0486E-01	1.5636E-01
		1.0434E-05	7.2066E-06

P1 = 5.00E+00 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0093E+02	3.9187E+03	5.7493E+03
T	2.8077E+01	4.2147E+01	4.4905E+01
RHO	9.7135E+00	4.5057E+01	4.7149E+01
M	8.6671E+01	1.5276E+02	1.8445E+02
A	4.8845E+00	8.5257E+00	9.1808E+00
S	1.7065E+00	1.8773E+00	1.9322E+00
Z	1.8218E+00	2.0617E+00	2.1916E+00
GAME	9.1905E-01	8.2650E-01	8.3782E-01
U	1.7491E+01	3.8113E+00	3.6229E+00

SPECIES ----- MOLE FRACTIONS -----

F-	1.1951E-02	1.2694E-01	1.7867E-01
HF	1.0078E-01	9.4982E-02	8.1204E-02
HE+	9.3418E-09	1.4840E-05	5.2319E-05
M	2.2171E-24	7.6070E-22	9.47E-20
M+	8.4472E-01	4.4912E-01	5.5145E-01
M2	1.1091E-02	1.7662E-01	1.7862E-01
	1.7224E-05	7.9911E-04	5.7459E-06

Table II. - Continued

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SQ-M, US1= 2.80E+04 M/SEC				P1 = 5.00E+00 N/SQ-M, US1= 3.20E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.8475E+02	5.7187E+03	8.1154E+03	P	9.0239E+02	9.3360E+03	1.1651E+04
T	3.4857E+01	4.7729E+01	5.1535E+01	T	3.8878E+01	5.3360E+01	5.7932E+01
PHO	1.0144E+01	5.2075E+01	6.3933E+01	PHO	1.1098E+01	6.0570E+01	7.2442E+01
M	1.1744E+02	2.0935E+02	2.4899E+02	M	1.5333E+02	2.7618E+02	3.2644E+02
A	7.4946E+00	9.5948E+00	1.0355E+01	A	8.1797E+00	1.0809E+01	1.1757E+01
S	1.8972E+00	2.0015E+00	2.0685E+00	S	1.9959E+00	2.1301E+00	2.2077E+00
Z	1.9366E+00	2.3009E+00	2.4631E+00	Z	2.0914E+00	2.5792E+00	2.7761E+00
GAME	8.3254E-01	8.3831E-01	8.4474E-01	GAME	8.2288E-01	8.4824E-01	8.5943E-01
U	2.0740E+01	4.0410E+00	3.9091E+00	U	2.3923E+01	4.3845E+00	4.2277E+00
E-	7.0545E-02	2.1769E-01	2.6921E-01	E-	1.3931E-01	3.0210E-01	3.5161E-01
ME	1.0327E-01	8.6822E-02	8.0915E-02	ME	9.5623E-02	7.7063E-02	7.0682E-02
ME+	9.0454E-07	1.0140E-04	2.8444E-04	ME+	7.1077E-06	4.8199E-04	1.3621E-03
ME++	8.2903E-27	9.4846E-19	4.7509E-17	ME++	1.7131E-23	3.0759E-16	1.4746E-14
H	7.5563E-01	4.7779E-01	3.8066E-01	H	6.2572E-01	3.1873E-01	2.2610E-01
H+	7.0544E-02	2.1759E-01	2.6893E-01	H+	1.3932E-01	3.0162E-01	3.5024E-01
H2	5.0017E-06	3.6288E-06	2.3877E-06	H2	2.5338E-06	1.5009E-06	7.7717E-07

P1 = 5.00E+00 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.3623E+02	4.3104E+03	8.9093E+03
T	3.5977E+01	4.9117E+01	5.3044E+01
RMD	1.0374E+01	5.4270E+01	6.4171E+01
M	1.2594E+02	2.2517E+02	2.6722E+02
A	7.4661E+00	9.8844E+00	1.0684E+01
S	1.9215E+00	2.0331E+00	2.1027E+00
Z	1.9726E+00	2.3674E+00	2.5383E+00
GAME	8.2812E-01	8.4021E-01	8.4772E-01
U	2.1532E+01	4.1171E+00	4.0019E+00

SPECIES	MOLE FRACTIONS	
E-	8.7493E-02	2.3968E-01
ME	1.0139E-01	8.4327E-02
ME+	1.6852E-06	1.5309E-04
ME++	8.2657E-24	4.3739E-18
M	7.2362E-01	4.3631E-01
M+	8.7492E-02	2.3943E-01
M2	4.1461E-06	2.9627E-06

P1 = 5.00E+00 N/SQ-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8969E+02	6.9454E+03	9.7649E+03
T	3.7007E+01	4.0512E+01	5.4614E+01
RMD	1.0614E+01	4.6442E+01	6.8324E+01
M	1.3478E+02	2.4199E+02	2.8620E+02
A	7.8366E+00	1.0182E+01	1.1029E+01
S	1.9441E+00	2.0452E+00	2.1378E+00
Z	2.0165E+00	2.4361E+00	2.6167E+00
GAME	8.2539E-01	8.4252E-01	8.5117E-01
U	2.2328E+01	4.1997E+00	4.1022E+00

SPECIES	MOLE FRACTIONS	
E-	1.0472E-01	2.6112E-01
ME	9.9473E-02	8.1871E-02
ME+	2.881E-06	2.2694E-04
ME++	6.0314E-24	1.8941E-17
M	5.9108E-01	3.5588E-01
M+	1.0472E-01	2.6090E-01
M2	3.4987E-06	2.3947E-06

P1 = 5.00E+00 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0272E+03	9.8477E+03	1.3746E+04
T	4.0644E+01	5.6357E+01	6.1693E+01
RMD	1.1454E+01	6.4151E+01	7.5773E+01
M	1.7307E+02	3.1302E+02	3.6977E+02
A	8.5316E+00	1.1668E+01	1.2560E+01
S	2.0474E+00	2.1462E+00	2.2794E+00
Z	2.1793E+00	2.7280E+00	2.9405E+00
GAME	8.2748E-01	8.5550E-01	8.6956E-01
U	2.5518E+01	4.5579E+00	4.5921E+00

SPECIES	MOLE FRACTIONS	
E-	1.7404E-01	3.4019E-01
ME	9.174E-02	7.2310E-02
ME+	1.5190E-06	1.0035E-03
ME++	2.8489E-22	4.6924E-14
M	5.4015E-01	2.4733E-01
M+	1.7404E-01	3.4019E-01
M2	1.8558E-06	8.7043E-07

P1 = 5.00E+00 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1503E+03	1.1518E+04	1.6058E+04
T	4.2222E+01	5.9430E+01	6.4134E+01
RMD	1.1985E+01	6.7048E+01	7.6248E+01
M	1.9402E+02	1.5208E+02	4.1436E+02
A	8.8908E+00	1.2184E+01	1.3437E+01
S	2.1001E+00	2.2630E+00	2.3185E+00
Z	2.2726E+00	2.8801E+00	3.0323E+00
GAME	8.2349E-01	8.6434E-01	8.7985E-01
U	2.7113E+01	4.8641E+00	4.6039E+00

SPECIES	MOLE FRACTIONS	
E-	2.0754E-01	3.7502E-01
ME	8.7976E-02	6.7331E-02
ME+	2.9488E-05	2.1107E-03
ME++	3.3910E-21	6.4672E-14
M	4.9411E-01	1.8242E-01
M+	2.0793E-01	3.7291E-01
M2	1.5477E-06	4.5220E-07

P1 = 5.00E+00 N/SQ-M, US1= 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4272E+03	1.4109E+04	2.1251E+04
T	4.5382E+01	6.7438E+01	7.7750E+01
RHO	1.2708E+01	7.0372E+01	8.0583E+01
M	2.3948E+02	4.3651E+02	5.1939E+02
A	9.6447E+00	1.3767E+01	1.5435E+01
S	2.2090E+00	2.3965E+00	2.4953E+00
Z	2.4747E+00	3.1744E+00	3.3918E+00
GAME	8.2827E-01	8.8272E-01	9.0350E-01
U	3.0282E+01	4.4696E+00	5.4672E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.7264E-01	4.3296E-01	4.6930E-01
ME	8.9723E-02	5.3064E-02	2.8335E-02
ME+	9.5009E-05	9.9384E-03	3.6631E-02
ME++	2.5495E-19	1.8223E-11	2.9840E-09
M	3.7400E-01	8.1018E-02	3.3058E-02
H+	2.7254E-01	4.2302E-01	4.3867E-01
H2	6.8997E-07	7.6413E-08	1.1754E-08

P1 = 5.00E+00 N/SQ-M, US1= 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5744E+03	1.7006E+04	2.4185E+04
T	4.6974E+01	7.2596E+01	8.6690E+01
RHO	1.2994E+01	7.0883E+01	7.9432E+01
M	2.6399E+02	4.8181E+02	5.7754E+02
A	1.0046E+01	1.4609E+01	1.7144E+01
S	2.2651E+00	2.4619E+00	2.5633E+00
Z	2.5826E+00	3.3049E+00	3.5093E+00
GAME	8.3181E-01	8.8955E-01	9.6614E-01
U	3.1854E+01	4.8407E+00	4.2291E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.0303E-01	4.5745E-01	4.8708E-01
ME	7.7277E-02	4.0537E-02	1.0918E-02
ME+	1.4431E-04	3.9980E-02	4.6073E-02
ME++	3.8668E-18	3.0917E-10	8.1437E-08
M	3.1666E-01	4.8763E-02	1.4927E-02
H+	3.0287E-01	4.3437E-01	4.4100E-01
H2	4.7037E-07	2.5052E-08	2.0195E-09

P1 = 5.00E+00 N/SQ-M, US1= 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8974E+03	2.0778E+04	3.1245E+04
T	4.0392E+01	8.6144E+01	1.2992E+02
RHO	1.3389E+01	6.8584E+01	6.6840E+01
M	3.1658E+02	5.7791E+02	7.2448E+02
A	1.0918E+01	1.7138E+01	2.2797E+01
S	2.3800E+00	2.5872E+00	2.7046E+00
Z	2.8093E+00	3.5166E+00	3.5981E+00
GAME	8.4201E-01	9.6946E-01	1.1117E+00
U	3.4975E+01	6.8341E+00	8.7655E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.5927E-01	4.8806E-01	4.9973E-01
ME	7.0697E-02	1.0314E-02	2.0478E-04
ME+	4.9598E-04	4.6564E-02	5.4734E-02
ME++	9.9070E-17	8.1131E-08	6.4411E-04
M	2.1977E-01	1.3563E-02	9.7254E-04
H+	3.5877E-01	4.4149E-01	4.4371E-01
H2	1.8704E-07	1.4569E-09	4.3621E-12

P1 = 5.00E+00 N/SQ-M, US1= 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0648E+03	2.2388E+04	3.4748E+04
T	5.2334E+01	9.8118E+01	1.5054E+02
RHO	1.3484E+01	6.3864E+01	6.3715E+01
M	3.4444E+02	6.2742E+02	7.9989E+02
A	1.1405E+01	1.9442E+01	2.3106E+01
S	2.4383E+00	2.6442E+00	2.7562E+00
Z	2.9266E+00	3.5727E+00	3.6227E+00
GAME	8.4941E-01	1.0805E+00	9.7893E-01
U	3.6517E+01	7.7124E+00	9.8048E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.8483E-01	4.9619E-01	5.0314E-01
ME	4.7444E-02	2.4940E-02	4.8990E-04
ME+	8.9000E-04	5.3483E-02	4.8362E-02
ME++	7.9322E-16	2.3076E-06	6.7747E-03
M	1.6298E-01	5.1375E-03	4.3955E-04
H+	3.8933E-01	4.4270E-01	4.4122E-01
H2	1.0444E-07	1.6195E-10	7.2094E-13

Table II. - Continued

$$p_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/50-M, US1 = 5.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.244E+03	2.369E+04	3.786E+04
T	5.557E+01	1.140E+02	1.439E+02
PMO	1.349E+01	5.786E+01	6.301E+01
M	3.738E+02	6.778E+02	8.707E+02
A	1.941E+01	2.147E+01	2.367E+01
S	2.496E+00	2.694E+00	2.799E+00
Z	3.042E+00	3.591E+00	3.644E+00
GAME	8.590E-01	1.136E+00	9.326E-01
U	3.804E+01	8.881E+00	1.038E+01
SPECIES			
	MOLE FRACTIONS		
F-	4.084E-01	4.988E-01	5.088E-01
HF	6.401E-02	5.211E-04	3.494E-05
HE+	1.771E-02	5.509E-02	3.650E-02
HE++	7.488E-14	6.492E-04	1.803E-02
M	1.191E-01	1.789E-03	2.858E-04
H+	4.044E-01	4.436E-01	4.362E-01
M2	5.175E-08	1.472E-11	2.962E-13

P1 = 5.00E+00 N/50-M, US1 = 5.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.802E+03	2.732E+04	4.636E+04
T	6.403E+01	1.570E+02	2.110E+02
PMO	1.205E+01	4.764E+01	5.802E+01
M	4.686E+02	8.395E+02	1.102E+03
A	1.374E+01	2.316E+01	2.938E+01
S	2.668E+00	2.821E+00	2.926E+00
Z	3.353E+00	3.650E+00	3.785E+00
GAME	8.797E-01	9.353E-01	1.080E+00
U	4.249E+01	1.163E+01	1.232E+01
SPECIES			
	MOLE FRACTIONS		
F-	4.632E-01	5.069E-01	5.244E-01
HF	4.343E-02	3.537E-05	1.549E-06
HE+	1.620E-02	4.049E-02	3.822E-03
HE++	2.263E-11	1.425E-02	4.901E-02
M	3.011E-02	2.640E-04	9.113E-05
H+	4.470E-01	4.379E-01	4.226E-01
M2	2.345E-09	1.966E-13	2.461E-14

P1 = 5.00E+00 N/5Q-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0023E+03	2.8781E+04	4.9476E+04
T	6.8030E+01	1.6689E+02	2.4048E+02
RMD	1.2843E+01	4.6727E+01	4.4259E+01
M	5.0246E+02	9.9908E+02	1.1977E+03
A	1.4400E+01	2.3897E+01	3.2319E+01
S	2.7232E+00	2.8594E+00	2.9494E+00
Z	3.4363E+00	3.6908E+00	3.7963E+00
GAMF	8.8695E-01	9.2711E-01	1.1432E+00
U	4.3948E+01	1.2073E+01	1.3439E+01

SPECIES	MOLE FRACTIONS
F-	4.7619E-01
HE	7.9946E-02
ME+	2.8245E-02
ME++	2.8748E-10
H	1.7473E-02
H+	4.4794E-01
M2	7.1094E-10
	5.1230E-01
	1.9605E-05
	2.9369E-02
	2.4809E-02
	1.9622E-04
	4.3332E-01
	1.0325E-13
	5.2595E-01
	2.5701E-07
	9.2954E-04
	5.1753E-02
	5.1734E-05
	4.2141E-01
	7.0320E-19

P1 = 5.00E+00 N/5Q-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2044E+03	2.5984E+04	5.2467E+04
T	7.2827E+01	1.7717E+02	2.7367E+02
RMD	1.7545E+01	4.5358E+01	5.0465E+01
M	4.2748E+02	9.5981E+02	1.2974E+03
A	1.4239E+01	2.0444E+01	3.4708E+01
S	2.7762E+00	2.8979E+00	3.0090E+00
Z	3.4044E+00	3.7213E+00	3.7989E+00
GAMF	9.2050E-01	9.4895E-01	1.1587E+00
U	4.5372E+01	1.2541E+01	1.0745E+01

SPECIES	MOLE FRACTIONS
F-	4.8713E-01
HE	1.5974E-02
ME+	4.1012E-02
ME++	3.4742E-09
H	9.7729E-03
H+	4.4611E-01
M2	1.8794E-10
	5.1749E-01
	9.5887E-04
	1.8251E-02
	5.2385E-02
	3.0556E-05
	4.2115E-01
	2.1894E-15

P1 = 5.00E+00 N/5Q-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4222E+03	2.4834E+04	4.0739E+04
T	5.7201E+01	1.3094E+02	1.7611E+02
RMD	1.3418E+01	5.2681E+01	6.2207E+01
M	4.0428E+02	7.2910E+02	9.4223E+02
A	1.2533E+01	2.2746E+01	2.4787E+01
S	2.5590E+00	2.7401E+00	2.8417E+00
Z	3.1558E+00	3.6002E+00	3.7127E+00
GAMF	8.7622E-01	1.0976E+00	9.3962E-01
U	3.9544E+01	1.0089E+01	1.0851E+01

SPECIES	MOLE FRACTIONS
F-	4.2947E-01
HE	5.9812E-02
ME+	3.5635E-03
ME++	9.2360E-14
H	8.9911E-02
H+	4.2647E-01
M2	2.1485E-08
	4.0002E-01
	1.4191E-04
	5.4466E-02
	9.5900E-04
	7.3507E-04
	4.4369E-01
	1.5500E-12
	5.1180E-01
	1.7000E-04
	2.3274E-02
	1.0578E-02
	2.0627E-04
	4.3075E-01
	1.4710E-13

P1 = 5.00E+00 N/5Q-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6994E+03	2.5978E+04	4.3485E+04
T	6.0387E+01	1.4573E+02	1.9044E+02
RMD	1.3257E+01	4.9273E+01	6.0790E+01
M	4.3584E+02	7.8244E+02	1.0182E+03
A	1.3151E+01	2.2851E+01	2.6604E+01
S	2.6124E+00	2.7823E+00	2.8838E+00
Z	3.2604E+00	3.6180E+00	3.7562E+00
GAMF	8.7842E-01	9.9040E-01	9.8940E-01
U	4.1024E+01	1.1029E+01	1.1443E+01

SPECIES	MOLE FRACTIONS
F-	4.4793E-01
HE	5.3524E-02
ME+	7.8154E-03
ME++	1.4340E-12
H	5.0921E-02
H+	4.4011E-01
M2	7.4077E-09
	4.0248E-01
	6.5472E-07
	4.9784E-02
	4.1747E-02
	1.4479E-04
	3.9227E-02
	4.4184E-01
	4.7289E-13
	5.2080E-01
	4.6397E-04
	1.1494E-02
	4.1747E-02
	1.4479E-04
	3.9227E-02
	4.4184E-01
	4.7289E-13

Table II. - Continued.

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/50-M, US1= 6.20E+04 M/SEC				P1 = 5.00E+00 N/50-M, US1= 6.80E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	PHO	M	P	T	PHO	M
3.4092E+03	7.9870E+01	1.1972E+01	4.7348E+02	4.0041E+03	1.1619E+02	9.5024E+00	6.8047E+02
1.6966E+01	2.8273E+00	3.5650E+00	1.0111E+00	2.1503E+01	3.2188E+01	2.9508E+00	3.0498E+00
4.6687E+01	1.3110E+01	3.7945E+00	1.6363E+01	3.0498E+00	1.1493E+00	1.5598E+01	1.9730E+01
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.9710E-01	5.2102E-01	5.2624E-01	E-	5.2011E-01	5.2601E-01	5.2601E-01
HE	9.3721E-02	3.7945E-04	1.2294E-08	HE	7.2931E-05	9.8613E-08	5.2337E-10
HE+	6.0728E-02	9.3823E-03	9.3351E-05	HE+	5.4907E-02	6.0939E-04	1.2003E-05
M	4.4083E-08	4.3745E-02	5.2544E-02	M	5.6317E-04	5.2056E-02	5.2624E-02
M+	4.4323E-03	1.0520E-04	1.9062E-05	M+	2.6593E-04	3.0841E-05	6.1340E-06
M+	4.437E-01	4.2495E-01	4.2108E-01	M+	4.4408E-01	4.2129E-01	4.2108E-01
M2	3.147E-11	2.408E-14	7.5807E-16	M2	5.2702E-14	1.4232E-15	5.5501E-17

P1 = 5.00E+00 N/50-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2239E+03	2.7464E+04	5.2631E+04
T	1.2760E+02	2.5746E+02	4.3899E+02
RMU	9.1477E+00	2.8080E+01	3.1570E+01
M	7.2711E+02	1.2480E+03	1.7852E+03
A	2.1549E+01	3.3657E+01	4.4043E+01
S	2.9842E+00	3.0813E+00	3.1813E+00
Z	3.6119E+00	3.7990E+00	3.8004E+00
GAME	1.0057E+00	1.1582E+00	1.1631E+00
U	5.1230E+01	1.6631E+01	2.0071E+01

SPECIES	MOLE FRACTIONS
E-	5.0159E-01
HE	3.0421E-05
HE+	5.2002E-02
HE++	3.3469E-03
H	1.4630E-04
M+	4.4249E-01
M2	1.5701E-14

P1 = 9.00E+00 N/50-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6079E+03	2.9202E+04	5.3565E+04
T	9.0247E+01	2.0288E+02	3.3919E+02
RMU	1.1134E+01	3.0578E+01	4.1960E+01
M	6.1034E+02	1.0769E+03	1.4922E+03
A	1.9009E+01	2.8692E+01	3.8711E+01
S	2.0728E+00	2.9767E+00	3.0847E+00
Z	3.5899E+00	3.7844E+00	3.7998E+00
GAME	1.1153E+00	1.0722E+00	1.1627E+00
U	4.7845E+01	1.3809E+01	1.7541E+01

SPECIES	MOLE FRACTIONS
E-	4.9860E-01
HE	1.1643E-02
HE+	4.0085E-03
HE++	4.8827E-02
H	1.0111E-06
M+	1.6779E-03
M2	4.4405E-01
	3.2673E-12

P1 = 5.00E+00 N/50-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6079E+03	2.9202E+04	5.3565E+04
T	9.0247E+01	2.0288E+02	3.3919E+02
RMU	1.1134E+01	3.0578E+01	4.1960E+01
M	6.1034E+02	1.0769E+03	1.4922E+03
A	1.9009E+01	2.8692E+01	3.8711E+01
S	2.0728E+00	2.9767E+00	3.0847E+00
Z	3.5899E+00	3.7844E+00	3.7998E+00
GAME	1.1153E+00	1.0722E+00	1.1627E+00
U	4.7845E+01	1.3809E+01	1.7541E+01

SPECIES	MOLE FRACTIONS
E-	4.9860E-01
HE	1.1643E-02
HE+	4.0085E-03
HE++	4.8827E-02
H	1.0111E-06
M+	1.6779E-03
M2	4.4405E-01
	3.2673E-12

Table II. - Continued.

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/50-M. US1= 4.00E+03 M/SEC				P1 = 1.00E+01 N/50-M. US1= 7.00E+03 M/SEC			
MOVING SHOCK		STANDING SHOCK		MOVING SHOCK		STANDING SHOCK	
REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK	
P	T	P	T	P	T	P	T
3.1753E+00	3.9638E+00	2.4294E+01	6.4997E+01	4.0043E+01	1.6412E+02	1.6412E+02	2.7113E+02
3.9638E+00	6.6010E+00	3.9638E+00	5.6032E+00	6.9918E+00	8.5483E+00	8.5483E+00	9.2284E+00
3.2647E+00	4.1037E+00	6.6010E+00	1.1437E+01	5.6656E+00	1.8383E+01	1.8383E+01	2.6742E+01
1.7739E+00	1.9749E+00	4.1037E+00	6.0096E+00	8.1200E+00	1.2832E+01	1.2832E+01	1.5761E+01
1.0518E+00	1.0533E+00	1.9749E+00	2.3173E+00	2.4302E+00	2.6891E+00	2.6891E+00	2.8394E+00
1.0000E+00	1.0000E+00	1.0533E+00	1.0682E+00	1.1295E+00	1.1451E+00	1.1451E+00	1.1694E+00
9.9100E-01	9.8101E-01	1.0000E+00	1.0004E+00	1.0108E+00	1.0573E+00	1.0573E+00	1.0977E+00
2.4570E+00	1.4725E+00	9.8101E-01	9.4497E-01	8.4114E-01	8.0016E-01	8.0016E-01	7.9883E-01
		1.4725E+00	1.3030E+00	4.7370E+00	1.4586E+00	1.4586E+00	1.2719E+00
SPECIES		SPECIES		SPECIES		SPECIES	
MOLE FRACTIONS		MOLE FRACTIONS		MOLE FRACTIONS		MOLE FRACTIONS	
E-	3.9508E-49	2.2153E-34	6.0947E-21	L-	4.9473E-14	5.8641E-13	6.5092E-12
HE	2.0000E-01	2.0000E-01	1.9991E-01	HE	1.9784E-01	1.8917E-01	1.8220E-01
HE+	3.5628E-65	7.1579E-58	1.4592E-48	HE+	3.6350E-40	1.4545E-33	1.0224E-30
HE++	0.	0.	0.	U.	0.	0.	0.
H	3.8444E-09	1.2505E-04	8.5678E-04	H	2.1449E-02	1.0832E-01	1.7604E-01
H+	7.2402E-20	7.2402E-20	7.8444E-20	H+	4.9480E-14	5.8641E-13	6.5092E-12
H2	8.0000E-01	8.0000E-01	7.9923E-01	H2	7.8070E-01	7.0251E-01	6.3977E-01

P1 = 1.00E+01 N/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9812E+01	5.2620E+01	1.1341E+02
T	4.4042E+00	5.8755E+00	7.4018E+00
RMD	4.4942E+00	6.9119E+00	1.5123E+01
M	4.5642E+00	6.2532E+00	6.7494E+00
A	2.0726E+00	2.3425E+00	2.5044E+00
S	1.0784E+00	1.0021E+00	1.0990E+00
Z	1.0000E+00	1.0000E+00	1.0144E+00
GAME	9.7494E-01	9.3317E-01	6.3834E-01
U	3.1933E+00	1.6114E+00	1.3511E+00

SPECIES	MOLE FRACTIONS
E-	9.0255E-33
HE	2.0000E-01
HE+	4.8339E-36
HE++	0.
H	1.6057E-05
H+	7.2401E-20
H2	7.9999E-01

P1 = 1.00E+01 N/SQ-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.8000E+01	9.5169E+01	1.7542E+02
T	5.8001E+00	7.5004E+00	8.4203E+00
RMD	4.9577E+00	1.2477E+01	1.9890E+01
M	6.1797E+00	9.0784E+00	1.1905E+01
A	2.3231E+00	2.5140E+00	2.6421E+00
S	1.1041E+00	1.1117E+00	1.1319E+00
Z	1.0000E+00	1.0171E+00	1.0472E+00
GAME	9.3024E-01	8.2852E-01	6.0364E-01
U	3.9504E+00	1.5631E+00	1.2062E+00

SPECIES	MOLE FRACTIONS
E-	7.0244E-20
HE	1.9982E-01
HE+	1.4073E-46
HE++	0.
H	1.7906E-03
H+	2.1104E-21
H2	7.9839E-01

P1 = 1.00E+01 N/SQ-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.3650E+01	2.7755E+02	4.2035E+02
T	7.7676E+00	9.3830E+00	9.9842E+00
RMD	6.6782E+00	2.6565E+01	3.6202E+01
M	1.0384E+01	1.6887E+01	2.0467E+01
A	2.5432E+00	2.8823E+00	3.0397E+00
S	1.1568E+00	1.1835E+00	1.2142E+00
Z	1.0344E+00	1.1137E+00	1.1631E+00
GAME	8.0498E-01	7.9499E-01	7.9574E-01
U	5.5902E+00	1.4050E+00	1.2624E+00

SPECIES	MOLE FRACTIONS
E-	3.3132E-14
HE	1.9334E-01
HE+	4.0070E-36
HE++	0.
H	6.6586E-02
H+	3.5132E-14
H2	7.4007E-01

P1 = 1.00E+01 N/SQ-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.9313E+01	4.3334E+02	6.2515E+02
T	8.3317E+00	1.0125E+01	1.7306E+01
RMD	7.2947E+00	3.6208E+01	4.7079E+01
M	1.2948E+01	2.1751E+01	2.5839E+01
A	4.6572E+00	3.0871E+00	3.2572E+00
S	1.1605E+00	1.2268E+00	1.2593E+00
Z	1.0674E+00	1.1824E+00	1.2408E+00
GAME	7.9366E-01	7.9610E-01	7.9922E-01
U	6.4404E+00	1.3872E+00	1.2706E+00

SPECIES	MOLE FRACTIONS
E-	4.3611E-13
HE	1.8737E-01
HE+	7.6033E-34
HE++	0.
H	1.2626E-01
H+	4.3611E-13
H2	6.6075E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/50-M. US1= 1.00E+04 M/SEC				P1 = 1.00E+01 N/50-M. US1= 1.30E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.6891E+01	6.3613E+02	8.8803E+02	P	1.5084E+02	1.5329E+03	2.0525E+03
RNO	8.8097E+00	1.0827E+01	1.1416E+01	T	9.9885E+00	1.3078E+01	1.4154E+01
M	8.9071E+00	4.6575E+01	5.8497E+01	RNO	1.1961E+01	7.5503E+01	8.7747E+01
A	1.5809E+01	2.7196E+01	3.1874E+01	M	2.6169E+01	4.6919E+01	5.6175E+01
S	2.7753E+00	3.3056E+00	3.4954E+00	A	3.1597E+00	4.0993E+00	4.4660E+00
Z	1.2193E+00	1.2745E+00	1.3110E+00	S	1.3336E+00	1.4370E+00	1.4866E+00
GAME	1.1074E+00	1.2616E+00	1.3297E+00	Z	1.2627E+00	1.5524E+00	1.6526E+00
U	7.8954E-01	7.9994E-01	8.0484E-01	GAME	7.9158E-01	8.2165E-01	8.5267E-01
	7.2947E+00	1.3954E+00	1.3104E+00	U	9.7891E+00	1.5511E+00	1.5457E+00
E-	2.8760E-12	5.1180E-10	1.7900E-09	E-	1.2495E-10	3.5562E-08	1.6292E-07
HE	1.9061E-01	1.5853E-01	1.5040E-01	HE	4.5840E-01	1.2883E-01	1.2164E-01
HE+	7.6210E-33	2.0793E-26	6.5099E-25	HE+	1.6735E-28	8.2720E-22	3.7041E-20
HE++	0.	0.	1.6489E-91	HE++	0.	1.4829E-80	4.2467E-74
H	1.9394E-01	4.1473E-01	4.9597E-01	H	4.1605E-01	7.1169E-01	7.8975E-01
H+	2.8760E-12	5.1180E-10	1.7900E-09	H+	1.2495E-10	3.5562E-08	1.6292E-07
H2	6.2545E-01	4.2675E-01	3.5363E-01	H2	4.2550E-01	1.5948E-01	8.9224E-02

P1 = 1.00E+01 N/SC-M, US1= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7582E+02	1.9188E+03	2.5856E+03
T	1.0356E+01	1.4154E+01	1.6390E+01
RMO	1.2814E+01	8.1602E+01	8.9604E+01
M	3.0215E+01	5.4586E+01	6.3530E+01
A	3.3017E+00	4.4798E+00	5.2542E+00
S	1.3764E+00	1.4947E+00	1.5504E+00
Z	1.3251E+00	1.6597E+00	1.7607E+00
GAME	7.9437E-01	8.5434E-01	9.5607E-01
U	1.0600E+01	1.6657E+00	1.7693E+00

SPECIES	MOLE FRACTIONS
E-	3.3568E-10
ME	1.6973E-07
ME+	1.2051E-01
ME++	3.9823E-20
M	2.0993E-74
M+	7.9495E-01
M+	1.6973E-07
M2	8.4547E-02

P1 = 1.00E+01 N/SC-M, US1= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0264E+02	2.3184E+03	3.2744E+03
T	1.0731E+01	1.6036E+01	2.3524E+01
RMO	1.3561E+01	8.2370E+01	7.7344E+01
M	3.4501E+01	6.2727E+01	7.5804E+01
A	3.4533E+00	5.1483E+00	6.9041E+00
S	1.4213E+00	1.5512E+00	1.6134E+00
Z	1.3923E+00	1.7552E+00	1.7991E+00
GAME	7.9813E-01	9.4169E-01	1.1204E+00
U	1.1417E+01	1.8799E+00	2.4246E+00

SPECIES	MOLE FRACTIONS
E-	8.6210E-10
ME	1.6388E-06
ME+	1.1395E-01
ME++	1.1407E-17
M	2.0802E-65
M+	8.6053E-01
M+	1.6388E-06
M2	2.5524E-02

P1 = 1.00E+01 N/SC-M, US1= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0635E+02	8.8728E+02	1.2115E+03
T	9.2302E+00	1.1522E+01	1.2167E+01
RMO	9.9472E+00	5.7020E+01	6.9672E+01
M	1.8965E+01	3.3209E+01	3.8575E+01
A	2.8979E+00	3.5413E+00	3.7595E+00
S	1.2544E+00	1.3159E+00	1.3605E+00
Z	1.1535E+00	1.3505E+00	1.4284E+00
GAME	7.8472E-01	8.0590E-01	8.1312E-01
U	8.1339E+00	1.4251E+00	1.3604E+00

SPECIES	MOLE FRACTIONS
E-	1.2853E-11
ME	1.7330E-01
ME+	1.4156E-30
ME++	0.
M	2.6619E-01
M+	1.2453E-11
M2	5.6043E-01

P1 = 1.00E+01 N/SC-M, US1= 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2700E+02	1.1889E+03	1.5984E+03
T	9.6170E+00	1.2252E+01	1.3024E+01
RMO	1.1011E+01	6.6901E+01	7.9832E+01
M	4.2414E+01	3.9784E+01	4.5974E+01
A	3.0254E+00	3.8010E+00	4.0671E+00
S	1.2930E+00	1.3803E+00	1.4254E+00
Z	1.2054E+00	1.4480E+00	1.5374E+00
GAME	7.8964E-01	8.1438E-01	8.2614E-01
U	8.9644E+00	1.4758E+00	1.4333E+00

SPECIES	MOLE FRACTIONS
E-	4.3643E-11
ME	1.6592E-01
ME+	4.3099E-29
ME++	0.
M	3.4082E-01
M+	4.3643E-11
M2	4.9326E-01

Table II. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/50-M, US1= 1.60E+04 N/SEC				P1 = 1.00E+01 N/50-M, US1= 1.90E+04 N/SEC					
		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P		2.3124E+02	2.6804E+03	4.0221E+03	P		3.2705E+02	3.7357E+03	6.0344E+03
T		1.1126E+01	2.0375E+01	3.1040E+01	T		1.2816E+01	3.4633E+01	4.1234E+01
RHO		1.4194E+01	7.3269E+01	7.1450E+01	RHO		1.5037E+01	5.8902E+01	7.5895E+01
M		3.9203E+01	7.1131E+01	8.8817E+01	M		5.4902E+01	9.9008E+01	1.2544E+02
A		3.6171E+00	6.4105E+00	7.4372E+00	A		4.2955E+00	7.6090E+00	8.2765E+00
S		1.4680E+00	1.6008E+00	1.6594E+00	S		1.6149E+00	1.7041E+00	1.7569E+00
Z		1.4641E+00	1.7955E+00	1.8132E+00	Z		1.6970E+00	1.8408E+00	1.9242E+00
UAME		8.0519E-01	1.1233E+00	9.8257E-01	UAME		8.4832E-01	9.1173E-01	8.6150E-01
U		1.2222E+01	2.3693E+00	3.0240E+00	U		1.4574E+01	3.7196E+00	3.6013E+00
SPECIES		MOLE FRACTIONS		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-		4.1059E-09	6.7306E-05	7.6119E-03	E-		5.3890E-08	2.2304E-02	6.4544E-02
HE		1.3680E-01	1.1139E-01	1.1028E-01	HE		1.1785E-01	1.0844E-01	1.0372E-01
HE+		1.8553E-25	1.3010E-13	1.9930E-08	HE+		5.2975E-22	2.1122E-07	5.6623E-06
HE++		U.	1.1271E-50	6.4740E-32	HE++		1.1702E-01	2.3281E-29	5.4044E-23
H		6.3397E-01	8.8587E-01	8.7434E-01	H		8.2144E-01	8.4644E-01	7.6317E-01
H+		4.1059E-09	6.7306E-05	7.6119E-03	H+		5.3890E-08	2.2304E-02	6.4534E-02
H2		4.2943E-01	2.5990E-03	1.5535E-04	H2		6.0671E-02	8.9846E-05	3.7734E-05

P1 = 1.00E+01 N/50-M, US1 = 1.70E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6150E+02	3.0099E+03	4.7400E+03
T	1.1564E+01	2.6097E+01	3.5592E+01
RNU	1.4090E+01	6.4007E+01	7.2214E+01
M	4.4142E+01	7.9800E+01	1.0104E+02
A	3.7988E+00	7.1519E+00	7.7062E+00
S	1.5161E+00	1.6403E+00	1.6944E+00
Z	1.5598E+00	1.8019E+00	1.8441E+00
GAME	8.1046E-01	1.0877E+00	9.0476E-01
U	1.3018E+01	2.9890E+00	3.3243E+00

P1 = 1.00E+01 N/50-M, US1 = 2.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6127E+02	3.9846E+03	4.3816E+03
T	1.4134E+01	3.7370E+01	4.3207E+01
RNU	1.4475E+01	5.7031E+01	7.4752E+01
M	6.0704E+01	1.0935E+02	1.3766E+02
A	4.8746E+00	7.8477E+00	8.5403E+00
S	1.6643E+00	1.7359E+00	1.7895E+00
Z	1.7654E+00	1.8745E+00	1.9759E+00
GAME	9.3263E-01	8.8073E-01	8.5436E-01
U	1.5244E+01	3.8799E+00	3.6741E+00

P1 = 1.00E+01 N/50-M, US1 = 2.10E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9422E+02	3.8715E+03	6.0956E+03
T	1.7196E+01	3.9365E+01	6.4549E+01
RNU	1.2763E+01	5.1441E+01	6.7627E+01
M	6.6733E+01	1.1945E+02	1.4905E+02
A	5.8624E+00	8.0492E+00	8.7513E+00
S	1.7068E+00	1.7717E+00	1.8262E+00
Z	1.7963E+00	1.9119E+00	2.0234E+00
GAME	1.1203E+00	8.6087E-01	8.4971E-01
U	1.5403E+01	3.9470E+00	3.6594E+00

P1 = 1.00E+01 N/50-M, US1 = 1.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9353E+02	3.36	5.4267E+03
T	1.2090E+01	3.1050E+01	3.8755E+01
RNU	1.5004E+01	5.9720E+01	7.4346E+01
M	4.9376E+01	8.9039E+01	1.1311E+02
A	4.0116E+00	7.4059E+00	7.9924E+00
S	1.5653E+00	1.6735E+00	1.7258E+00
Z	1.6148E+00	1.8148E+00	1.8836E+00
GAME	8.2250E-01	9.7409E-01	8.7508E-01
U	1.3805E+01	3.4653E+00	3.4876E+00

Table II. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/50-M, US1 = 2.20E+04 M/SEC				P1 = 1.00E+01 N/50-M, US1 = 2.50E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	A	P	T	RHO	A
4.2687E+02	2.1408E+01	7.2993E+01	6.6103E+00	5.4170E+02	3.1150E+01	9.4520E+00	7.1355E+00
1.1040E+01	7.2993E+01	6.6103E+00	1.7420E+00	9.3647E+01	4.3343E+01	1.6508E+02	1.9031E+00
1.1307E+01	7.2993E+01	6.6103E+00	1.8002E+00	1.0240E+00	1.9031E+00	2.0992E+00	1.9639E+00
1.6440E+01	7.2993E+01	6.6103E+00	3.7003E+00	8.864E-01	8.4249E-01	4.0100E+00	3.8220E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	3.4650E-04	7.8253E-02	1.3084E-01	E-	2.1194E-02	1.4254E-01	1.9591E-01
HE	1.1110E-01	1.0241E-01	9.6544E-02	HE	1.0876E-01	9.5240E-02	8.9227E-02
HE+	1.9311E-12	6.1497E-06	3.3104E-05	HE+	5.9361E-01	3.4210E-05	1.1714E-04
ME+	5.0210E-47	5.0410E-23	2.9090E-20	ME+	6.5965E-31	2.5665E-20	2.7662E-16
H	8.8795E-01	7.4106E-01	6.4170E-01	H	8.9886E-01	6.1967E-01	5.1895E-01
M+	5.4650E-04	7.8247E-02	1.3081E-01	M+	2.1194E-02	1.4251E-01	1.9579E-01
M2	2.5989E-04	2.2686E-05	1.3610E-05	M2	1.9270E-05	1.1097E-05	7.8652E-06

P1 = 1.00E+01 N/SG-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8633E+02	4.5110E+03	6.5840E+03
T	3.3043E+01	4.6734E+01	5.0905E+01
RHD	9.5146E+00	4.6773E+01	5.6167E+01
H	1.0126E+02	1.7880E+02	2.1553E+02
A	7.2916E+00	9.2133E+00	9.4024E+00
S	1.8483E+00	1.9339E+00	1.9904E+00
Z	1.8650E+00	2.1550E+00	2.3034E+00
GAME	8.4276E-01	8.4249E-01	8.4691E-01
U	1.9120E+01	4.0640E+00	3.8959E+00

SPECIES	MOLE FRACTIONS
E-	3.4856E-02
HE	1.0724E-01
HE+	2.1731E-07
HE++	7.6356E-29
H	6.2303E-01
M+	3.4856E-02
M2	1.3779E-05

P1 = 1.00E+01 N/SG-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3330E+02	4.9701E+03	7.2018E+03
T	3.4614E+01	4.8239E+01	5.2452E+01
RHD	9.6566E+00	4.6502E+01	5.7895E+01
H	1.0916E+02	1.9324E+02	2.3218E+02
A	7.4600E+00	9.4937E+00	1.0276E+01
S	1.8723E+00	1.9642E+00	2.0292E+00
Z	1.8947E+00	2.2156E+00	2.3718E+00
GAME	8.4057E-01	8.4329E-01	8.4894E-01
U	1.9889E+01	4.1310E+00	3.9765E+00

SPECIES	MOLE FRACTIONS
E-	5.0014E-02
HE	1.0555E-01
HE+	5.7205E-07
HE++	2.0153E-27
H	7.9441E-01
M+	5.0014E-02
M2	1.0632E-05

P1 = 1.00E+01 N/SG-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6109E+02	3.6516E+03	5.5219E+03
T	2.5549E+01	4.2265E+01	4.6699E+01
RHD	1.0011E+01	4.3260E+01	5.5728E+01
H	7.9441E+01	1.4038E+02	1.7194E+02
A	6.9078E+00	8.4526E+00	9.1544E+00
S	1.7725E+00	1.8414E+00	1.8982E+00
Z	1.8051E+00	1.9972E+00	2.1218E+00
GAME	1.0347E+00	8.4641E-01	8.4501E-01
U	1.7011E+01	3.9392E+00	3.7233E+00

SPECIES	MOLE FRACTIONS
E-	2.8932E-03
HE	1.0013E-01
HE+	1.1346E-05
HE++	4.5028E-22
H	7.0234E-01
M+	9.8743E-02
M2	1.7209E-05

P1 = 1.00E+01 N/SG-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0003E+02	3.8140E+03	5.6853E+03
T	2.8759E+01	4.3722E+01	4.7992E+01
RHD	9.5628E+00	4.2634E+01	5.4369E+01
H	8.6442E+01	1.5222E+02	1.8524E+02
A	7.0084E+00	8.6873E+00	9.3988E+00
S	1.7991E+00	1.8730E+00	1.9316E+00
Z	1.8142E+00	2.0461E+00	2.1781E+00
GAME	9.3947E-01	8.431E-01	8.4473E-01
U	1.7032E+01	3.9643E+00	3.7687E+00

SPECIES	MOLE FRACTIONS
E-	1.0031E-02
HE	1.0000E-01
HE+	8.6471E-09
HE++	8.7089E-34
H	8.6991E-01
M+	1.0031E-02
M2	3.1187E-05

Table II. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SQ-M. US1 = 2.80E+04 M/SEC					P1 = 1.00E+01 N/SQ-M. US1 = 3.20E+04 M/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	
E-	6.4087E-02	2.0981E-01	2.4309E-01	5.4819E+03	7.8939E+03	4.9921E+02	7.9500E+03	1.1271E+04	
HE	1.0377E-01	8.7462E-02	8.1440E-02	4.9739E+01	5.4039E+01	4.0385E+01	5.5798E+01	6.0907E+01	
HE+	1.2354E-06	1.3756E-04	3.9870E-04	4.8383E+01	5.9804E+01	1.0711E+01	5.9904E+01	6.7334E+01	
HE++	4.3562E-26	4.5618E-18	2.6010E-16	2.0834E+02	2.4964E+02	1.5324E+02	2.7483E+02	3.2721E+02	
M	7.6405E-01	4.9270E-01	3.9423E-01	9.7820E+00	1.0601E+01	6.3420E+00	1.1023E+01	1.2037E+01	
M+	6.8086E-02	2.0988E-01	4.9270E-01	1.9948E+00	2.0622E+00	1.9937E+00	2.1199E+00	2.1978E+00	
H2	8.5847E-06	6.2335E-06	4.1039E-06	2.2779E+00	2.4428E+00	2.0787E+00	2.3486E+00	2.7484E+00	
				8.4468E-01	8.5145E-01	8.2894E-01	8.5439E-01	8.6559E-01	
				4.2054E+00	4.0692E+00	2.3839E+01	4.5686E+00	4.5091E+00	
P	6.8247E+02								
T	3.5900E+01								
RHO	9.4414E+00								
M	1.1737E+02								
A	7.6333E+00								
S	1.8962E+00								
Z	1.9274E+00								
GANE	6.4023E-01								
U	2.0670E+01								

SPECIES

MOLE FRACTIONS

P1 = 1.00E+01 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0190E+03	9.3961E+03	1.3202E+04
T	4.2250E+01	5.8994E+01	6.4874E+01
RHU	1.1144E+01	5.9134E+01	7.0304E+01
M	1.7297E+02	3.1150E+02	3.7001E+02
A	8.7049E+00	1.699E+01	1.2447E+01
S	2.1644E+00	2.1840E+00	2.2674E+00
Z	2.0441E+00	2.6934E+00	2.9084E+00
GAME	8.2845E-01	8.6130E-01	8.7442E-01
U	2.5429E+01	4.7917E+00	4.7817E+00

SPECIES	MOLE FRACTIONS
E-	1.0850E-01
HE	9.2301E-02
HE+	7.2956E-02
HE++	1.2991E-03
H	1.8131E-21
H+	5.7086E-01
H2	1.0850E-01
	3.1745E-06
	3.3170E-01
	7.2956E-02
	1.2991E-03
	1.8601E-14
	2.6364E-01
	3.3040E-01
	1.5971E-06
	3.8122E-01
	6.4874E-02
	5.8994E-03
	1.0992E-12
	1.7297E-01
	3.7001E-01
	1.2447E-01
	2.2674E+00
	2.9084E+00
	8.7442E-01
	7.0000E-07

P1 = 1.00E+01 N/SQ-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1461E+03	1.0959E+04	1.5494E+04
T	4.4030E+01	6.2433E+01	6.9427E+01
RHU	1.1539E+01	6.1780E+01	7.2720E+01
M	1.9397E+02	3.5036E+02	4.1717E+02
A	9.0755E+00	1.2419E+01	1.3747E+01
S	2.0950E+00	2.2487E+00	2.3376E+00
Z	2.2259E+00	2.6413E+00	3.0681E+00
GAME	8.2740E-01	8.6940E-01	8.8336E-01
U	2.7010E+01	5.0470E+00	5.0924E+00

SPECIES	MOLE FRACTIONS
E-	2.0209E-01
HE	8.6614E-02
HE+	6.7768E-02
HE++	2.6214E-03
H	4.1504E-20
H+	2.3945E-13
H2	5.0720E-01
	1.9924E-01
	3.6388E-01
	8.7390E-07
	3.6650E-01
	6.7768E-02
	2.6214E-03
	4.1504E-20
	2.3945E-13
	1.6888E-11
	1.1053E-01
	4.0497E-01
	2.9095E-07

P1 = 1.00E+01 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.3364E+02	6.0380E+03	8.6507E+03
T	3.7208E+01	5.1236E+01	5.5665E+01
RHU	1.0049E+01	5.0313E+01	6.1762E+01
M	1.2588E+02	2.2406E+02	2.6787E+02
A	7.8086E+00	1.0080E+01	1.0939E+01
S	1.9203E+00	2.0256E+00	2.0958E+00
Z	1.9623E+00	2.3426E+00	2.5161E+00
GAME	8.3512E-01	8.4654E-01	8.5439E-01
U	2.1457E+01	4.2864E+00	4.1674E+00

SPECIES	MOLE FRACTIONS
E-	8.2725E-02
HE	1.0192E-01
HE+	2.3442E-06
HE++	4.6343E-25
H	7.3263E-01
H+	8.2725E-02
H2	7.0803E-06
	2.3163E-01
	8.5169E-02
	2.0690E-04
	2.0895E-17
	4.5158E-01
	2.3142E-01
	5.1182E-06
	2.8401E-01
	7.8901E-02
	5.8653E-04
	1.0882E-15
	3.5187E-01
	2.8403E-01
	3.2352E-06

P1 = 1.00E+01 N/SQ-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8695E+02	6.4380E+03	9.4694E+03
T	3.8335E+01	5.2741E+01	5.7344E+01
RHU	1.0288E+01	5.7242E+01	6.3713E+01
M	1.3470E+02	2.4041E+02	2.8699E+02
A	7.9852E+00	1.0586E+01	1.1291E+01
S	1.9455E+00	2.0586E+00	2.1294E+00
Z	1.9993E+00	2.4095E+00	2.5918E+00
GAME	8.3192E-01	8.4880E-01	8.5774E-01
U	2.2250E+01	4.3740E+00	4.2732E+00

SPECIES	MOLE FRACTIONS
E-	9.9703E-02
HE	1.0003E-01
HE+	4.0662E-06
HE++	5.5240E-24
H	7.0056E-01
H+	9.9699E-02
H2	5.9499E-06
	2.5295E-01
	8.2701E-02
	3.0549E-04
	8.9210E-17
	3.1288E-01
	4.1140E-01
	2.5264E-01
	4.1672E-06
	3.0554E-01
	7.6307E-02
	8.5758E-04
	4.4145E-15
	3.1288E-01
	3.0460E-01
	2.5005E-06

$$p_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SQ-M, US1 = 3.00E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2607E+03	1.7800E+04	
T	5.5748E+01	7.4729E+01	
RMU	1.1339E+01	7.336E+01	
M	2.31604E+02	4.6636E+02	
H	9.1591E+00	1.4641E+01	
A	2.1482E+00	2.407E+00	
S	2.3526E+00	3.2192E+00	
Z	8.3135E-01	8.9104E-01	
GAME	2.8601E+01	5.4493E+00	
U			

P1 = 1.00E+01 N/SQ-M, US1 = 4.00E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7266E+03	1.7999E+04	
T	5.0950E+01	8.1154E+01	
RMU	1.2694E+01	6.5588E+01	
M	2.8955E+02	5.2672E+02	
H	1.0702E+01	1.5801E+01	
A	2.5124E+00	2.5048E+00	
S	2.6679E+00	3.3816E+00	
Z	8.6213E-01	9.0977E-01	
GAME	5.5307E+01	6.4478E+00	
U			

P1 = 1.00E+01 N/SQ-M, US1 = 3.00E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2607E+03	1.7800E+04	
T	5.5748E+01	7.4729E+01	
RMU	1.1339E+01	7.336E+01	
M	2.31604E+02	4.6636E+02	
H	9.1591E+00	1.4641E+01	
A	2.1482E+00	2.407E+00	
S	2.3526E+00	3.2192E+00	
Z	8.3135E-01	8.9104E-01	
GAME	2.8601E+01	5.4493E+00	
U			

P1 = 1.00E+01 N/SQ-M, US1 = 4.00E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7266E+03	1.7999E+04	
T	5.0950E+01	8.1154E+01	
RMU	1.2694E+01	6.5588E+01	
M	2.8955E+02	5.2672E+02	
H	1.0702E+01	1.5801E+01	
A	2.5124E+00	2.5048E+00	
S	2.6679E+00	3.3816E+00	
Z	8.6213E-01	9.0977E-01	
GAME	5.5307E+01	6.4478E+00	
U			

P1 = 1.00E+01 N/SQ-M, US1 = 3.00E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2607E+03	1.7800E+04	
T	5.5748E+01	7.4729E+01	
RMU	1.1339E+01	7.336E+01	
M	2.31604E+02	4.6636E+02	
H	9.1591E+00	1.4641E+01	
A	2.1482E+00	2.407E+00	
S	2.3526E+00	3.2192E+00	
Z	8.3135E-01	8.9104E-01	
GAME	2.8601E+01	5.4493E+00	
U			

P1 = 1.00E+01 N/SQ-M, US1 = 4.00E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7266E+03	1.7999E+04	
T	5.0950E+01	8.1154E+01	
RMU	1.2694E+01	6.5588E+01	
M	2.8955E+02	5.2672E+02	
H	1.0702E+01	1.5801E+01	
A	2.5124E+00	2.5048E+00	
S	2.6679E+00	3.3816E+00	
Z	8.6213E-01	9.0977E-01	
GAME	5.5307E+01	6.4478E+00	
U			

P1 = 1.00E+01 N/SQ-M, US1 = 3.00E+04 M/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2607E+03	1.7800E+04	
T	5.5748E+01	7.4729E+01	
RMU	1.1339E+01	7.336E+01	
M	2.31604E+02	4.6636E+02	
H	9.1591E+00	1.4641E+01	
A	2.1482E+00	2.407E+00	
S	2.3526E+00	3.2192E+00	
Z	8.3135E-01	8.9104E-01	

P1 = 1.00E+01 N/50-M. US1 = 4.60E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0090E+03	1.9700E+04	2.9802E+04
T	5.2034E+01	8.8450E+01	1.2949E+02
RHO	1.2851E+01	6.4196E+01	6.4196E+01
H	3.1043E+02	5.7547E+02	7.2136E+02
A	1.1102E+01	1.7165E+01	2.2894E+01
S	4.3686E+00	2.5654E+00	2.6835E+00
Z	2.7820E+00	3.4836E+00	3.5949E+00
GAME	8.4788E-01	9.5628E-01	1.1265E+00
U	3.4657E+01	6.9047E+00	8.7213E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5299E-01	4.8329E-01	4.9901E-01
T	7.1203E-02	1.3073E-02	4.0349E-04
RHO	6.8700E-04	4.4340E-02	5.4943E-02
H	5.4542E-16	8.2244E-06	3.1949E-04
A	2.2242E-01	2.0353E-02	1.8979E-03
S	3.5230E-01	4.3895E-01	4.4343E-01
Z	3.4542E-07	5.8303E-09	3.1880E-11

P1 = 1.00E+01 N/50-M. US1 = 4.80E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0580E+03	2.1376E+04	3.3320E+04
T	5.4886E+01	9.9266E+01	1.5252E+02
RHO	1.2946E+01	6.0590E+01	6.0459E+01
H	3.4448E+02	6.2523E+02	7.9853E+02
A	1.1020E+01	1.9249E+01	2.3643E+01
S	4.4254E+00	2.6231E+00	2.7370E+00
Z	2.8904E+00	3.5541E+00	3.6134E+00
GAME	8.5458E-01	1.0503E+00	1.0140E+00
U	3.6395E+01	7.7808E+00	9.9106E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7850E-01	4.9354E-01	5.0102E-01
T	6.7894E-02	4.0305E-03	1.2733E-04
RHO	1.2075E-03	5.2241E-02	5.0028E-02
H	4.0002E-15	1.5659E-06	4.5492E-03
A	1.1500E-01	8.8839E-03	7.8304E-04
S	3.7735E-01	4.4130E-01	4.4203E-01
Z	2.0005E-07	8.9914E-10	4.4439E-12

P1 = 1.00E+01 N/50-M. US1 = 4.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4223E+03	1.4367E+04	2.0453E+04
T	4.7449E+01	7.0567E+01	8.1024E+01
RHO	1.2414E+01	6.5030E+01	7.5173E+01
H	2.5935E+02	4.3449E+02	5.2012E+02
A	9.8554E+00	1.3986E+01	1.5708E+01
S	4.2020E+00	2.3783E+00	2.4744E+00
Z	2.4541E+00	3.1307E+00	3.3506E+00
GAME	8.3412E-01	8.8538E-01	9.0642E-01
U	3.0177E+01	5.6692E+00	5.8549E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6653E-01	4.2504E-01	4.6396E-01
T	8.1360E-02	5.3243E-02	2.9350E-02
RHO	1.3088E-04	1.0641E-02	3.0230E-02
H	1.2890E-16	4.2270E-11	5.1220E-09
A	5.8558E-01	9.6688E-02	4.4750E-02
S	2.6639E-01	4.1440E-01	4.3373E-01
Z	1.2052E-06	1.8141E-07	3.3682E-08

P1 = 1.00E+01 N/50-M. US1 = 4.20E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5710E+03	1.6169E+04	2.3240E+04
T	4.9171E+01	7.5466E+01	8.9646E+01
RHO	1.2401E+01	6.5673E+01	7.4438E+01
H	4.6380E+02	4.7963E+02	5.7790E+02
A	1.0208E+01	1.4825E+01	1.7294E+01
S	4.2307E+00	2.4422E+00	2.5472E+00
Z	4.5599E+00	3.2624E+00	3.4808E+00
GAME	8.3704E-01	8.9268E-01	9.5842E-01
U	3.1740E+01	6.0344E+00	6.3991E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5905E-01	4.4826E-01	4.8280E-01
T	7.7893E-02	4.1502E-02	1.2740E-02
RHO	4.3488E-04	1.9803E-02	4.6232E-02
H	1.1400E-17	5.4338E-10	4.5993E-08
A	3.2841E-01	6.1980E-02	2.1311E-02
S	2.9661E-01	4.2846E-01	4.3035E-01
Z	8.3193E-07	6.8490E-08	7.2490E-09

P1 = 1.00E+01 N/50-M, US1 = 5.80E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.594E+03	2.760E+04	4.784E+04
T	7.053E+01	1.703E+02	2.464E+02
RHO	1.451E+01	4.412E+01	5.264E+01
M	7.022E+02	8.951E+02	1.193E+03
A	1.463E+01	2.419E+01	3.284E+01
S	2.704E+00	2.840E+00	2.945E+00
Z	3.409E+00	3.673E+00	3.792E+00
NAME	8.900E+01	9.357E+01	1.126E+02
U	4.583E+01	1.235E+01	1.354E+01

SPECIES	MOLE FRACTIONS
E-	5.100E-01
HE	3.914E-05
HE+	3.401E-02
HE++	2.039E-02
H	3.364E-04
H+	4.352E-01
H2	5.609E-13

P1 = 1.00E+01 N/50-M, US1 = 4.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.196E+03	2.880E+04	5.083E+04
T	7.520E+01	1.805E+02	2.721E+02
RHO	1.420E+01	4.309E+01	4.910E+01
M	5.372E+02	9.559E+02	1.297E+03
A	1.550E+01	2.516E+01	3.453E+01
S	2.757E+00	2.877E+00	2.987E+00
Z	3.400E+00	3.712E+00	3.777E+00
NAME	9.172E+01	9.447E+01	1.154E+02
U	4.526E+01	1.286E+01	1.493E+01

SPECIES	MOLE FRACTIONS
E-	5.151E-01
HE	2.150E-05
HE+	2.320E-02
HE++	3.061E-02
H	2.537E-04
H+	4.307E-01
H2	3.079E-13

P1 = 1.00E+01 N/50-M, US1 = 5.20E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.414E+03	2.384E+04	3.920E+04
T	5.905E+01	1.310E+02	1.806E+02
RHO	1.291E+01	5.053E+01	5.884E+01
M	4.041E+02	7.260E+02	9.436E+02
A	1.276E+01	2.296E+01	2.509E+01
S	2.539E+00	2.720E+00	2.824E+00
Z	3.122E+00	3.505E+00	3.697E+00
NAME	8.722E+01	1.119E+02	9.420E+01
U	3.962E+01	1.006E+01	1.109E+01

SPECIES	MOLE FRACTIONS
E-	4.994E-01
HE	2.911E-04
HE+	5.483E-02
HE++	4.990E-04
H	1.401E-03
H+	4.435E-01
H2	1.357E-11

P1 = 1.00E+01 N/50-M, US1 = 5.40E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.601E+03	2.494E+04	4.202E+04
T	6.290E+01	1.448E+02	1.943E+02
RHO	1.240E+01	4.704E+01	5.778E+01
M	4.350E+02	7.790E+02	1.018E+03
A	1.237E+01	2.337E+01	2.464E+01
S	2.595E+00	2.762E+00	2.865E+00
Z	3.227E+00	3.609E+00	3.761E+00
NAME	8.793E+01	1.030E+02	9.763E+01
U	4.040E+01	1.113E+01	1.163E+01

SPECIES	MOLE FRACTIONS
E-	5.012E-01
HE	1.242E-04
HE+	5.191E-02
HE++	3.377E-02
H	7.178E-04
H+	4.620E-01
H2	2.995E-12

PI = 1.00E+01 N/SU-M. US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2109E+03	2.7140E+04	5.2059E+04
T	1.2910E+02	2.5707E+02	4.3842E+02
RND	9.0571E+00	2.7799E+01	3.1264E+01
M	7.2694E+02	1.2470E+03	1.7820E+03
A	2.2070E+01	3.3554E+01	4.4000E+01
S	2.9673E+00	3.0424E+00	3.1652E+00
Z	3.6063E+00	3.7979E+00	3.7999E+00
WAVE	1.0404E+00	1.1534E+00	1.1631E+00
U	5.1176E+01	1.6662E+01	2.0859E+01

SPECIES	POLE FRACTIONS
L-	5.2604E-01
ME	1.2333E-07
ME+	5.0656E-04
ME+	5.2154E-02
M	4.1829E-05
M+	4.2124E-01
M2	4.6054E-15

PI = 1.00E+01 N/SU-M. US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6054E+03	2.9272E+04	5.3114E+04
T	9.1033E+01	2.0465E+02	3.3870E+02
RND	1.1058E+01	3.7899E+01	4.1205E+01
M	6.1027E+02	1.0751E+03	1.4902E+03
A	1.8039E+01	2.8339E+01	3.8604E+01
S	2.8032E+00	2.9546E+00	3.0659E+00
Z	3.5610E+00	3.7742E+00	3.7994E+00
WAVE	1.0602E+00	1.0398E+00	1.1623E+00
U	4.7831E+01	1.3965E+01	1.7504E+01

SPECIES	POLE FRACTIONS
L-	5.2307E-01
ME	3.8352E-06
ME+	6.7049E-03
ME+	4.6283E-02
M	1.3443E-04
M+	4.2380E-01
M2	7.0834E-14

PI = 1.00E+01 N/SU-M. US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6054E+03	2.8388E+04	5.2944E+04
T	1.0322E+02	2.2055E+02	3.7142E+02
RND	1.0235E+01	3.3970E+01	3.7155E+01
M	6.4040E+02	1.1317E+03	1.5802E+03
A	4.0500E+01	3.0350E+01	4.0512E+01
S	2.8052E+00	2.9943E+00	3.1023E+00
Z	3.5940E+00	3.7890E+00	3.7990E+00
WAVE	1.1402E+00	1.1022E+00	1.1620E+00
U	4.8943E+01	1.4762E+01	1.8600E+01

SPECIES	POLE FRACTIONS
L-	5.2495E-01
ME	1.1909E-06
ME+	2.8005E-03
ME+	4.9482E-02
M	8.9846E-05
M+	4.2210E-01
M2	2.7504E-14

Table II. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/56-M, US1 = 4.00E+03 M/SEC				P1 = 2.00E+01 N/56-M, US1 = 7.00E+03 M/SEC			
MOVING SHOCK				MOVING SHOCK			
ANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.3988E-49	7.8338E-37	2.9488E-21	E-	5.3885E-16	8.5892E-13	1.0143E-11
HE	2.0000E-01	2.0000E-01	1.9994E-01	HE	1.9822E-01	1.9012E-01	1.8310E-01
HE+	5.0386E-05	1.0125E-57	1.9347E-46	HE+	1.2450E-39	2.0173E-32	9.9551E-31
HE++	0.	0.	0.	HE++	0.	0.	0.
H	2.7357E-09	8.8405E-07	6.1902E-04	H	1.7765E-02	9.8813E-02	1.6899E-01
H+	7.2402E-20	7.2402E-20	7.5376E-20	H+	5.3892E-16	8.5892E-13	1.0143E-11
H2	8.0000E-01	8.0000E-01	7.9994E-01	H2	7.8401E-01	7.1107E-01	6.4791E-01

PI = 2.00E+01 N/50-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9012E+01	5.2317E+01	1.1302E+02
T	4.4003E+00	5.8836E+00	7.5199E+00
RHO	4.4961E+00	8.811E+00	1.4960E+01
M	4.5641E+00	6.2517E+00	8.7788E+00
A	2.0728E+00	2.3517E+00	2.5302E+00
S	1.0807E+00	1.0844E+00	1.1019E+00
Z	1.0000E+00	1.0000E+00	1.0114E+00
GAME	9.7512E-01	9.3944E-01	8.4709E-01
U	3.1955E+00	1.6163E+00	1.3714E+00

SPECIES	MOLE FRACTIONS
E-	3.2041E-33
HE	2.0000E-01
HE+	6.5761E-36
HE++	0.
H	1.1561E-05
H+	7.2402E-20
H2	7.9999E-01
E-	8.5289E-20
HE	1.9988E-01
HE+	5.7218E-47
HE++	0.
H	1.2001E-03
H+	1.5765E-19
H2	7.9892E-01

PI = 2.00E+01 N/50-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8753E+01	9.3991E+01	1.7573E+02
T	5.8174E+00	7.6051E+00	8.6304E+00
RHO	4.9607E+00	1.2185E+01	1.9514E+01
M	6.1787E+00	9.0506E+00	1.1959E+01
A	4.3358E+00	7.9422E+00	2.6984E+00
S	1.1070E+00	1.1144E+00	1.1350E+00
Z	1.0000E+00	1.0144E+00	1.0432E+00
GAME	9.3731E-01	8.3779E-01	8.0845E-01
U	3.9540E+00	1.5959E+00	1.3354E+00

SPECIES	MOLE FRACTIONS
E-	4.6962E-20
HE	1.9987E-01
HE+	1.2724E-46
HE++	0.
H	1.3036E-03
H+	4.0393E-20
H2	7.9883E-01
E-	4.9162E-15
HE	1.9717E-01
HE+	1.0266E-36
HE++	0.
H	2.8343E-02
H+	4.9162E-15
H2	7.7449E-01

PI = 2.00E+01 N/50-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.3604E+01	2.6892E+02	4.1234E+02
T	7.9260E+00	9.6428E+00	1.0307E+01
RHO	6.5443E+00	2.5208E+01	3.6597E+01
M	1.0375E+01	1.6802E+01	2.0484E+01
A	2.7423E+00	2.9197E+00	3.0871E+00
S	1.1601E+00	1.1859E+00	1.2144E+00
Z	1.0359E+00	1.1065E+00	1.1502E+00
GAME	8.1106E-01	7.9896E-01	7.9974E-01
U	5.5702E+00	1.4455E+00	1.3003E+00

SPECIES	MOLE FRACTIONS
E-	4.4504E-14
HE	1.9400E-01
HE+	3.0102E-30
HE++	0.
H	3.9400E-02
H+	9.4505E-14
H2	7.4504E-01
E-	1.6294E-11
HE	1.8075E-01
HE+	8.3584E-30
HE++	0.
H	1.9252E-01
H+	1.6294E-11
H2	6.2673E-01

PI = 2.00E+01 N/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.9003E+01	4.1832E+02	6.1086E+02
T	8.5445E+00	1.0442E+01	1.1086E+01
RHO	7.8021E+00	3.4146E+01	4.4701E+01
M	1.2438E+01	2.1647E+01	2.5808E+01
A	4.0920E+00	3.1306E+00	3.3144E+00
S	1.1894E+00	1.2285E+00	1.2614E+00
Z	1.0020E+00	1.1735E+00	1.2320E+00
GAME	7.9706E-01	7.9989E-01	8.0302E-01
U	6.4230E+00	1.4313E+00	1.3162E+00

SPECIES	MOLE FRACTIONS
E-	7.1149E-13
HE	1.8824E-01
HE+	9.0288E-33
HE++	0.
H	1.1785E-01
H+	7.1149E-13
H2	6.9346E-01
E-	1.4524E-10
HE	1.7044E-01
HE+	6.9642E-28
HE++	0.
H	2.9563E-01
H+	1.4524E-10
H2	5.3393E-01

Table II. - Continued

$$p_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/SQ-M, US1= 1.00E+04 M/SEC				P1 = 2.00E+01 N/SQ-M, US1= 1.30E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	A	P	T	RHO	A
8.6600E+01	6.1335E+02	1.1197E+01	4.3780E+01	1.5041E+02	1.4732E+03	1.0336E+01	4.6747E+01
9.0618E+00	1.1197E+01	4.3780E+01	3.3560E+00	1.0336E+01	1.3503E+01	1.4764E+01	5.4207E+01
8.6744E+00	2.7077E+01	3.3560E+00	1.2754E+00	1.1559E+01	7.0460E+01	8.2340E+01	4.5504E+00
1.5798E+01	3.3560E+00	1.2754E+00	1.2512E+00	2.6157E+01	4.6747E+01	5.4207E+01	4.5504E+00
4.8141E+00	1.2754E+00	1.2512E+00	8.0390E-01	3.2111E+00	4.1716E+00	1.4348E+00	1.6339E+00
1.2225E+00	1.2512E+00	8.0390E-01	1.4408E+00	1.3357E+00	1.5371E+00	1.4348E+00	1.6339E+00
1.1017E+00	8.0390E-01	1.4408E+00	1.3521E+00	1.2540E+00	8.3229E-01	8.5732E-01	1.0019E+00
7.9325E-01	1.4408E+00	1.3521E+00		1.7573E-01	1.6072E+00		
7.2700E+00				9.7012E+00			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.8106E-12	8.5068E-10	3.1103E-09	E-	4.2351E-10	5.7768E-08	2.6351E-07
HE	1.8154E-01	1.5985E-01	1.5148E-01	HE	1.2541E-01	1.3011E-01	1.2158E-01
HE+	3.2186E-31	1.6888E-25	4.6671E-24	HE+	1.8493E-27	4.9099E-21	2.1051E-19
HE++	0.	0.	2.2513E-08	HE++	0.	1.3604E-17	6.6544E-17
H	1.8460E-01	4.0148E-01	4.6518E-01	H	4.0551E-01	6.9887E-01	7.8017E-01
H+	4.8106E-12	8.5068E-10	3.1103E-09	H+	4.2351E-10	5.7768E-08	2.6351E-07
H2	6.3386E-01	4.3867E-01	3.6333E-01	H2	4.2440E-01	1.7102E-01	9.7805E-02

PI = 2.00E+01 N/50-M, US1= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0002E+02	8.5502E+02	1.1801E+03
T	9.5144E+00	1.1946E+01	1.2863E+01
RHU	9.7153E+01	5.3476E+01	6.5703E+01
M	1.8955E+01	3.3077E+01	3.8624E+01
A	2.4407E+00	3.5900E+00	3.8327E+00
S	1.2578E+00	1.3259E+00	1.3671E+00
Z	1.1470E+00	1.3305E+00	1.4103E+00
GAME	7.9236E+01	8.1012E+01	8.1792E+01
U	8.1067E+00	1.4736E+00	1.4000E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.1260E-11	3.7888E-07	1.3128E-08
HE	1.7433E-01	1.4942E-01	1.4101E-01
ME+	7.2078E-30	6.2201E-24	1.5254E-22
ME++	U.	1.0558E-08	9.8417E-03
H	2.5039E-01	5.0579E-01	5.8990E-01
M+	4.1260E-11	3.7888E-09	1.3128E-08
M2	5.8925E-01	3.4479E-01	2.6909E-01

PI = 2.00E+01 N/50-M, US1= 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2749E+02	1.1424E+03	1.5501E+03
T	9.9330E+00	1.2727E+01	1.3578E+01
RHU	1.0090E+01	6.2567E+01	7.5070E+01
M	2.2408E+01	3.9634E+01	4.8047E+01
A	3.0720E+00	3.8608E+00	4.1490E+00
S	1.2955E+00	1.3794E+00	1.4247E+00
Z	1.1981E+00	1.4346E+00	1.5256E+00
GAME	7.9323E+01	8.1892E+01	8.3130E+01
U	8.9302E+00	1.5284E+00	1.4846E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	7.5957E-11	1.4927E-08	5.3633E-08
HE	1.6093E-01	1.3942E-01	1.3130E-01
ME+	7.9130E-29	1.7506E-22	4.3004E-21
ME++	U.	2.3659E-03	6.8414E-06
H	5.5073E-01	6.0584E-01	6.8903E-01
M+	7.3457E-11	1.4927E-08	5.3633E-08
M2	5.0234E-01	2.5474E-01	1.7907E-01

PI = 2.00E+01 N/50-M, US1= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7535E+02	1.8466E+03	2.5066E+03
T	1.0753E+01	1.4712E+01	1.6501E+01
RHU	1.2411E+01	7.6140E+01	8.4696E+01
M	3.0204E+01	5.4393E+01	6.3594E+01
A	3.5500E+00	4.5276E+00	5.2809E+00
S	1.3780E+00	1.4913E+00	1.5608E+00
Z	1.3103E+00	1.6431E+00	1.7406E+00
GAME	7.9817E+01	8.5742E+01	9.4457E+01
U	1.0577E+01	1.7245E+00	1.8170E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.0637E-10	2.5704E-07	2.8205E-08
HE	1.5194E-01	1.2172E-01	1.1430E-01
ME+	2.0741E-26	1.9250E-19	7.9854E-17
ME++	U.	8.5148E-72	6.1994E-04
H	4.8050E-01	7.8278E-01	8.5624E-01
M+	6.0637E-10	2.5704E-07	2.8205E-08
M2	3.6748E-01	9.5500E-02	2.9413E-02

PI = 2.00E+01 N/50-M, US1= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0411E+02	2.2278E+03	3.1584E+03
T	1.1135E+01	1.6511E+01	2.3440E+01
RHU	1.3120E+01	7.7531E+01	7.4943E+01
M	3.7599E+01	6.2521E+01	7.5587E+01
A	3.5143E+00	5.1651E+00	6.8905E+00
S	1.4223E+00	1.5408E+00	1.6054E+00
Z	1.3628E+00	1.7403E+00	1.7972E+00
GAME	8.0212E+01	9.2842E+01	1.1207E+02
U	1.1307E+01	1.9281E+00	2.4150E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.5401E-09	1.9441E-06	2.8111E-04
HE	1.4946E-01	1.1492E-01	1.1120E-01
ME+	1.6930E-25	2.8809E-17	8.4923E-12
ME++	U.	1.3559E-63	5.8010E-44
H	5.5304E-01	8.5079E-01	8.8831E-01
M+	1.5201E-09	1.9441E-06	2.8111E-04
M2	3.0174E-01	3.4288E-02	1.6290E-03

Table II. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M, US1= 1.60E+04 M/SEC			P1 = 2.00E+01 N/50-M, US1= 1.90E+04 M/SEC		
MOVING SHOCK			MOVING SHOCK		
P	2.3004E+02	REFLECTED SHOCK	P	3.2625E+02	REFLECTED SHOCK
T	1.155ME+01	2.5052E+03	T	1.3321E+01	3.5732E+03
RMU	1.3727E+01	7.0677E+01	RMU	1.4533E+01	5.5333E+01
M	3.919ME+01	7.0946E+01	M	5.4805E+01	9.0597E+01
A	3.0032E+00	6.3476E+00	A	4.3694E+00	7.7607E+00
S	1.4004E+00	1.5969E+00	S	1.6127E+00	1.7024E+00
Z	1.4538E+00	1.7913E+00	Z	1.6847E+00	1.8337E+00
NAME	8.0730E-01	1.1016E+00	NAME	8.5073E-01	9.2739E-01
U	1.2109E+01	2.3690E+00	U	1.4539E+01	3.8176E+00
SPECIES			SPECIES		
MOLE FRACTIONS			MOLE FRACTIONS		
L-	3.7001E-09	4.9862E-05	L-	8.6124E-08	1.8525E-02
HE	1.5757E-01	1.1165E-01	HE	1.1072E-01	1.0907E-01
ME+	1.2019E-24	1.0052E-13	ME+	3.0160E-21	2.3623E-07
ME++	1.0079E-90	4.4331E-51	ME++	1.1108E-76	1.4266E-28
M	6.2427E-01	8.8336E-01	M	8.1284E-01	8.5375E-01
M+	3.7001E-09	4.9862E-05	M+	8.6124E-08	1.8525E-02
M2	4.2010E-01	4.8878E-03	M2	6.8443E-02	1.3487E-04

P1 = 2.00E+01 N/50-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6091E+02	2.9005E+03	4.5861E+03
T	1.2025E+01	2.6117E+01	3.6428E+01
RNU	1.4193E+01	2.1277E+01	6.4474E+01
M	9.4126E+01	7.9593E+01	1.0115E+02
A	3.8703E+00	7.2018E+00	7.8510E+00
S	1.5130E+00	1.6378E+00	1.8934E+00
Z	1.5207E+00	1.8006E+00	1.8305E+00
GAME	8.1494E-01	1.1030E+00	9.2040E-01
U	1.2748E+01	2.9894E+00	3.3933E+00

SPECIES	MOLE FRACTIONS
E-	9.2299E-04
HE	1.3083E-01
HE+	1.1108E-01
HE++	2.0337E-10
H	6.0921E-39
H+	8.8609E-01
H2	1.0497E-03
	7.3359E-04
	2.1100E-02
	1.0497E-03
	1.0497E-01
	1.0497E-01
	4.3068E-07
	7.4620E-27
	8.4889E-01
	2.1100E-02
	1.3293E-04

P1 = 2.00E+01 N/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6050E+02	3.8344E+03	6.2427E+03
T	1.4570E+01	3.8312E+01	4.4894E+01
RNU	1.4099E+01	5.3780E+01	7.0741E+01
M	6.0888E+01	1.0892E+02	1.3825E+02
A	4.8407E+00	7.9810E+00	8.7272E+00
S	1.8605E+00	1.7336E+00	1.7840E+00
Z	1.7552E+00	1.8451E+00	1.9657E+00
GAME	9.1931E-01	8.9258E-01	8.6306E-01
U	1.5209E+01	4.0003E+00	3.8006E+00

SPECIES	MOLE FRACTIONS
E-	5.0224E-07
HE	1.1395E-01
HE+	2.1927E-19
HE++	8.7794E-26
H	8.2268E-01
H+	5.0224E-07
H2	2.2555E-02
	3.5001E-02
	1.0723E-01
	1.2498E-06
	8.7794E-26
	8.2268E-01
	3.5001E-02
	8.5095E-05
	8.4344E-02
	1.0172E-01
	1.7141E-05
	4.9936E-21
	7.2924E-01
	8.4272E-02
	4.8185E-05

P1 = 2.00E+01 N/50-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9204E+02	3.2298E+03	5.2500E+03
T	1.2579E+01	3.1281E+01	3.9944E+01
RNU	1.4491E+01	5.7005E+01	7.0133E+01
M	4.9501E+01	8.8759E+01	1.1343E+02
A	4.0075E+00	7.5254E+00	8.1513E+00
S	1.5640E+00	1.6714E+00	1.7244E+00
Z	1.6046E+00	1.8113E+00	1.8762E+00
GAME	8.2679E-01	9.9952E-01	8.8658E-01
U	1.3770E+01	3.4983E+00	3.5804E+00

SPECIES	MOLE FRACTIONS
E-	2.5194E-08
HE	1.2449E-01
HE+	1.4151E-22
HE++	1.8836E-08
H	7.8687E-32
H+	8.7639E-01
H2	6.4774E-03
	2.3903E-04
	4.0701E-02
	1.0000E-01
	2.3529E-06
	3.8497E-24
	8.1191E-01
	4.0699E-02
	8.6820E-05

P1 = 2.00E+01 N/50-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9604E+02	3.8058E+03	6.6527E+03
T	1.7324E+01	4.0572E+01	4.6470E+01
RNU	1.2664E+01	4.9343E+01	6.5103E+01
M	6.7172E+01	1.1914E+02	1.4997E+02
A	5.8214E+00	8.1997E+00	8.9594E+00
S	1.7044E+00	1.7682E+00	1.8232E+00
Z	1.7931E+00	1.9010E+00	2.0122E+00
GAME	1.0994E+00	8.7172E-01	8.5842E-01
U	1.2892E+01	4.0845E+00	3.8624E+00

SPECIES	MOLE FRACTIONS
E-	1.0534E-05
HE	4.1154E-01
HE+	5.0354E-16
HE++	2.4302E-06
H	8.0892E-01
H+	5.0354E-05
H2	3.8541E-03
	5.3191E-02
	1.0520E-01
	3.7510E-06
	1.5082E-23
	7.8836E-01
	5.3187E-02
	5.4930E-05
	1.0566E-01
	3.6068E-05

Table II. - Continued

$$P_1 = 20 \text{ kN/m}^2$$

$P_1 = 2.00E+01 \text{ N/50-M.}$				$US1 = 2.20E+04 \text{ M/SEC}$				$P_1 = 2.00E+01 \text{ N/50-M.}$				$US1 = 2.50E+04 \text{ M/SEC}$			
MOVING SHOCK				STANDING SHOCK				MOVING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK				REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES				SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS				MOLE FRACTIONS				MOLE FRACTIONS			
E-	2.5119E-04	7.2362E-02	1.2045E-01	E-	1.0307E-01	1.2045E-01	1.2045E-01	E-	1.0307E-01	1.2045E-01	1.2045E-01	E-	1.0307E-01	1.2045E-01	1.2045E-01
HE	1.0111E-01	1.0307E-01	9.7691E-05	HE	1.0307E-01	9.7691E-05	9.7691E-05	HE	1.0307E-01	9.7691E-05	9.7691E-05	HE	1.0307E-01	9.7691E-05	9.7691E-05
HL+	1.9549E-12	7.9769E-06	4.1630E-05	HL+	7.9769E-06	4.1630E-05	4.1630E-05	HL+	7.9769E-06	4.1630E-05	4.1630E-05	HL+	7.9769E-06	4.1630E-05	4.1630E-05
HE++	2.4693E-47	2.1417E-22	1.8006E-19	HE++	2.1417E-22	1.8006E-19	1.8006E-19	HE++	2.1417E-22	1.8006E-19	1.8006E-19	HE++	2.1417E-22	1.8006E-19	1.8006E-19
M	8.6705E-01	7.5217E-01	6.5081E-01	M	7.5217E-01	6.5081E-01	6.5081E-01	M	7.5217E-01	6.5081E-01	6.5081E-01	M	7.5217E-01	6.5081E-01	6.5081E-01
H+	2.5119E-04	7.2362E-02	1.2045E-01	H+	7.2362E-02	1.2045E-01	1.2045E-01	H+	7.2362E-02	1.2045E-01	1.2045E-01	H+	7.2362E-02	1.2045E-01	1.2045E-01
H2	5.1120E-04	3.9303E-05	2.6995E-05	H2	3.9303E-05	2.6995E-05	2.6995E-05	H2	3.9303E-05	2.6995E-05	2.6995E-05	H2	3.9303E-05	2.6995E-05	2.6995E-05

PI = 2.00E+01 N/30-M. USI = 2.60E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0461E+02	4.3446E+03	6.4474E+03
T	3.3902E+01	4.8620E+01	5.3304E+01
RHU	5.2406E+00	4.1837E+01	5.2851E+01
M	1.0121E+02	1.7795E+02	2.1634E+02
A	7.4237E+00	9.3929E+00	1.0208E+01
S	1.8479E+00	1.9289E+00	1.9924E+00
Z	1.0501E+00	2.1359E+00	2.2859E+00
GAME	8.7407E-01	8.4960E-01	8.5415E-01
U	1.9064E+01	4.2325E+00	4.0019E+00

SPECIES	MOLE FRACTIONS
E-	3.1261E-02
HE	1.0764E-01
HE+	2.0952E-07
HE++	2.7957E-28
H	8.2971E-01
H+	3.1260E-02
H2	2.4064E-05
	1.5727E-01
	9.3563E-02
	7.5171E-05
	7.4837E-19
	5.9188E-01
	1.5720E-01
	1.5661E-05
	2.1457E-01
	8.7242E-02
	2.5133E-04
	7.4045E-17
	4.8761E-01
	2.1232E-01
	1.0804E-05

PI = 2.00E+01 N/30-M. USI = 2.70E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3125E+02	4.7717E+03	7.0245E+03
T	3.5636E+01	5.0252E+01	5.5022E+01
RHU	9.3899E+00	4.3282E+01	5.4284E+01
M	1.0909E+02	1.9228E+02	2.3288E+02
A	7.5902E+00	9.6818E+00	1.0526E+01
S	1.6718E+00	1.9587E+00	2.0239E+00
Z	1.8002E+00	2.1939E+00	2.3518E+00
GAME	8.5042E-01	8.5023E-01	8.5612E-01
U	1.9025E+01	4.3022E+00	4.1434E+00

SPECIES	MOLE FRACTIONS
E-	4.0506E-02
HE	1.0002E-01
HE+	7.4328E-17
HE++	1.1438E-28
H	6.0225E-01
H+	4.0505E-02
H2	1.8403E-05
	1.7955E-01
	9.1043E-02
	1.1961E-04
	4.2075E-18
	5.4984E-01
	1.7943E-01
	1.2962E-05
	2.3463E-01
	8.4008E-02
	3.7439E-04
	3.2371E-18
	4.4607E-01
	2.3407E-01
	8.8127E-06

PI = 2.00E+01 N/30-M. USI = 2.30E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6139E+02	3.5898E+03	5.5212E+03
T	2.5711E+01	4.3788E+01	4.8904E+01
RHU	9.9492E+00	4.1350E+01	5.3570E+01
M	7.9536E+01	1.4001E+02	1.7301E+02
A	7.0046E+00	8.6148E+00	9.3743E+00
S	1.7716E+00	1.8371E+00	1.8949E+00
Z	1.8037E+00	1.9826E+00	2.1042E+00
GAME	1.0580E+00	8.5488E-01	8.5270E-01
U	1.7000E+01	4.0928E+00	3.8773E+00

SPECIES	MOLE FRACTIONS
E-	2.2011E-03
HE	1.1004E-01
HE+	3.4938E-10
HE++	6.2110E-39
H	8.4459E-01
H+	2.2011E-03
H2	1.3045E-04
	9.2122E-02
	1.0086E-01
	1.4895E-05
	1.9872E-21
	7.5347E-14
	6.1601E-01
	1.4866E-01
	9.2107E-02
	1.4054E-01
	2.0442E-05
	1.4001E-01
	9.4752E-02
	7.1054E-05
	7.5347E-14
	6.1601E-01
	1.4866E-01
	9.2107E-02
	1.4054E-01
	2.0442E-05

PI = 2.00E+01 N/30-M. USI = 2.40E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5921E+02	3.7169E+03	5.6326E+03
T	2.9173E+01	4.5376E+01	5.0222E+01
RHU	9.4269E+00	4.0351E+01	5.1835E+01
M	8.6412E+01	1.5168E+02	1.8610E+02
A	7.1300E+00	8.8558E+00	9.6230E+00
S	1.7983E+00	1.8689E+00	1.9279E+00
Z	1.8148E+00	2.0300E+00	2.1634E+00
GAME	9.0101E-01	8.5139E-01	8.5219E-01
U	1.7630E+01	4.1221E+00	3.9203E+00

SPECIES	MOLE FRACTIONS
E-	6.2302E-03
HE	1.1020E-01
HE+	6.7328E-09
HE++	1.1172E-33
H	6.7328E-01
H+	6.2302E-03
H2	5.7108E-05
	1.1334E-01
	9.8493E-02
	2.8678E-05
	1.0672E-04
	3.3935E-18
	5.7107E-01
	1.6788E-01
	1.1332E-01
	2.3410E-05
	1.6788E-01
	9.8493E-02
	2.8678E-05
	1.0672E-04
	3.3935E-18
	5.7107E-01
	1.6788E-01
	1.1332E-01
	2.3410E-05

P1 = 2.00E+01 N/SQ-M. US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.3110E+02	5.7750E+03	8.4018E+03
T	5.8489E+01	5.3488E+01	5.8497E+01
RMU	9.7323E+00	4.6603E+01	5.7620E+01
M	1.2580E+02	2.2291E+02	2.6860E+02
A	7.9570E+00	1.0289E+01	1.1200E+01
S	1.9192E+00	2.0184E+00	2.0887E+00
Z	1.9517E+00	2.3168E+00	2.4927E+00
GAME	8.6282E-01	8.5330E-01	8.6144E-01
U	2.1382E+01	4.4662E+00	4.3434E+00

SPECIES	MOLE FRACTIONS	
E-	7.7757E-02	2.2306E-01
HE	1.0247E-01	8.6051E-02
HE+	3.2074E-06	2.7606E-04
HE++	2.3992E-24	9.5023E-17
H	7.4200E-01	4.6781E-01
H+	7.7754E-02	2.2279E-01
H2	1.2151E-05	8.8784E-06

P1 = 2.00E+01 N/SQ-M. US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.8414E+02	6.3391E+03	9.1837E+03
T	3.9728E+01	5.5112E+01	6.0304E+01
RMU	9.9304E+00	4.8298E+01	5.9353E+01
M	1.3461E+02	2.3916E+02	2.8766E+02
A	8.1440E+00	1.0597E+01	1.1564E+01
S	1.9431E+00	2.0487E+00	2.1210E+00
Z	1.9877E+00	2.3816E+00	2.5605E+00
GAME	8.3912E-01	8.5549E-01	8.6467E-01
U	2.2170E+01	4.5620E+00	4.4550E+00

SPECIES	MOLE FRACTIONS	
E-	9.4443E-02	2.4422E-01
HE	1.0081E-01	8.3570E-02
HE+	5.6458E-06	4.0591E-04
HE++	1.9344E-23	3.9950E-16
H	7.4049E-01	4.2798E-01
H+	9.4437E-02	2.4381E-01
H2	1.0194E-05	7.2810E-06

P1 = 2.00E+01 N/SQ-M. US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0124E+03	8.9388E+03	1.2824E+04
T	4.4018E+01	6.1814E+01	6.8318E+01
RMU	1.0733E+01	5.4424E+01	6.5302E+01
M	1.7287E+02	3.0987E+02	3.7154E+02
A	8.8000E+00	1.1936E+01	1.3140E+01
S	2.0409E+00	2.1721E+00	2.2576E+00
Z	2.1488E+00	2.6571E+00	2.8754E+00
GAME	8.3480E-01	8.8739E-01	8.7998E-01
U	2.5534E+01	4.9972E+00	4.9862E+00

SPECIES	MOLE FRACTIONS	
E-	1.6235E-01	3.2256E-01
HE	9.5042E-02	7.3610E-02
HE+	3.1281E-03	1.6610E-03
HE++	1.0915E-20	7.3527E-14
H	5.8226E-01	2.8126E-01
H+	1.6234E-01	3.2090E-01
H2	5.4551E-06	2.9390E-06

P1 = 2.00E+01 N/SQ-M. US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1419E+03	1.0415E+04	1.4950E+04
T	4.2950E+01	6.5443E+01	7.3613E+01
RMU	1.1112E+01	5.6821E+01	6.7494E+01
M	1.9379E+02	3.4855E+02	4.1802E+02
A	5.2708E+00	1.2662E+01	1.4014E+01
S	2.0913E+00	2.2347E+00	2.3237E+00
Z	2.2385E+00	2.8007E+00	3.0307E+00
GAME	8.3565E-01	8.7469E-01	8.8744E-01
U	2.6912E+01	5.2602E+00	5.2944E+00

SPECIES	MOLE FRACTIONS	
E-	1.7584E-01	3.5731E-01
HE	8.9292E-02	6.8185E-02
HE+	6.1115E-03	3.2257E-03
HE++	1.3009E-19	8.4239E-13
H	5.1548E-01	2.1720E-01
H+	1.7576E-01	3.5408E-01
H2	4.0268E-06	1.6873E-06

Table II. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M, US1 = 3.80E+04 M/SEC				P1 = 2.00E+01 N/50-M, US1 = 4.40E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	2.2044E-01	3.8865E-01	4.3399E-01	E-	3.1095E-01	4.607E-01	4.5102E-01
HE	8.5610E-02	6.1753E-02	4.4748E-02	HE	7.5113E-02	2.8919E-02	4.2014E-03
HE+	1.1159E-04	6.1749E-03	1.8142E-02	HE+	5.5837E-04	3.1004E-02	5.2230E-02
HE++	1.2096E-10	9.3012E-12	7.4630E-10	HE++	4.3931E-16	9.4521E-09	3.4403E-06
H	4.5750E-01	1.6095E-01	8.7274E-02	H	2.8698E-01	4.9736E-02	1.2095E-02
H+	2.2033E-01	3.8247E-01	4.1505E-01	H+	3.1839E-01	4.2967E-01	4.3959E-01
H2	2.9454E-06	8.8401E-07	2.5961E-07	H2	9.9709E-07	6.8359E-08	3.3254E-09
P	1.2750E+03	1.1905E+04	1.7210E+04	P	1.7203E+03	1.7084E+04	2.5224E+04
T	4.7821E+01	6.9392E+01	7.4374E+01	T	5.3454E+01	8.4253E+01	1.0603E+02
AMO	1.1436E+01	5.8661E+01	6.9083E+01	AMO	1.2117E+01	6.0754E+01	6.6773E+01
M	4.1591E+02	3.8937E+02	4.6776E+02	M	2.8939E+02	5.2410E+02	6.4309E+02
A	9.6666E+00	1.3425E+01	1.4934E+01	A	1.0948E+01	1.6011E+01	1.9944E+01
S	2.1420E+00	2.2977E+00	2.3919E+00	S	2.3027E+00	2.4839E+00	2.5954E+00
Z	2.3329E+00	2.9443E+00	3.1801E+00	Z	2.6434E+00	3.3375E+00	3.5423E+00
GAME	8.3754E-01	8.8208E-01	8.9528E-01	GAME	8.4832E-01	9.1161E-01	1.0521E+00
U	2.8492E+01	5.5558E+00	5.6510E+00	U	3.3100E+01	6.6526E+00	7.3992E+00

P1 = 2.00E+01 N/50-M, US1 = 4.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4160E+03	1.3633E+04	1.9607E+04
T	4.9670E+01	7.3762E+01	8.4673E+01
RHO	1.1729E+01	5.9935E+01	6.9960E+01
M	2.3921E+02	4.3227E+02	5.2007E+02
A	1.0070E+01	1.4210E+01	1.6004E+01
S	2.1952E+00	2.3604E+00	2.4597E+00
Z	4.9323E+00	3.0839E+00	3.3201E+00
NAME	4.4037E-01	8.8875E-01	9.1093E-01
U	3.0003E+01	5.8843E+00	6.0500E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	2.5995E-01
HE	6.2033E-02
ME	1.9503E-04
HE+	9.4959E-10
M	3.9807E-01
M+	2.5975E-01
M2	2.1154E-06

P1 = 2.00E+01 N/50-M, US1 = 4.20E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5652E+03	1.5345E+04	2.2304E+04
T	5.1535E+01	7.8651E+01	9.2903E+01
RHO	1.1977E+01	6.0670E+01	6.9644E+01
M	2.6371E+02	4.7727E+02	5.7844E+02
A	1.0502E+01	1.5056E+01	1.7401E+01
S	2.2600E+00	2.4227E+00	2.5273E+00
Z	2.5504E+00	3.2158E+00	3.4404E+00
NAME	8.4393E-01	8.9423E-01	9.5339E-01
U	3.1630E+01	6.2455E+00	6.5733E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	2.9017E-01
HE	7.4531E-02
ME	3.3204E-02
HE+	1.9946E-02
M	0.6513E-17
M+	3.4112E-01
M2	2.8944E-01
	1.4794E-06

P1 = 2.00E+01 N/50-M, US1 = 4.60E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8820E+03	1.8778E+04	2.8502E+04
T	5.5482E+01	9.1243E+01	1.2944E+02
RHO	1.2118E+01	5.9735E+01	6.1470E+01
M	3.1025E+02	5.7274E+02	7.1836E+02
A	1.1421E+01	1.7269E+01	2.2854E+01
S	2.7784E+00	2.9439E+00	3.5494E+00
Z	2.7538E+00	3.4453E+00	3.5844E+00
NAME	8.5367E-01	9.4862E-01	1.1264E+00
U	3.4728E+01	7.1629E+00	8.7001E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	3.4036E-01
HE	7.1049E-02
ME	9.4373E-04
HE+	4.0904E-15
M	2.3501E-01
M+	3.4541E-01
M2	6.3485E-07

P1 = 2.00E+01 N/50-M, US1 = 4.80E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0500E+03	2.0373E+04	3.1600E+04
T	5.7044E+01	1.0080E+02	1.5370E+02
RHO	1.2417E+01	5.7277E+01	5.7535E+01
M	3.4430E+02	6.2267E+02	7.9700E+02
A	1.1917E+01	1.9047E+01	2.4121E+01
S	2.4446E+00	2.6001E+00	2.7179E+00
Z	2.8649E+00	3.5264E+00	3.6043E+00
NAME	8.0002E-01	1.0220E+00	1.0499E+00
U	3.0266E+01	7.8761E+00	9.9700E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	3.1770E-01
HE	9.4404E-02
ME	1.6064E-02
HE+	1.9219E-14
M	1.0039E-01
M+	1.4754E-02
M2	4.3896E-01
	4.5488E-09

Table II. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/SG-M. US1 = 5.00E+04 N/SEC				P1 = 2.00E+01 N/SG-M. US1 = 5.60E+04 N/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	3.4535E-01	4.9598E-01	5.0520E-01	E-	4.5261E-01	5.0323E-01	5.2170E-01
HE	6.4371E-02	1.7833E-03	1.2414E-04	HE	4.4555E-02	1.2809E-04	1.3010E-05
HE+	2.0111E-03	5.4200E-02	4.3217E-04	HE+	1.6226E-02	4.7654E-02	9.4083E-03
HE++	1.3402E-13	1.9246E-05	1.1339E-02	HE++	8.7629E-11	7.4133E-03	4.3723E-02
H	1.4443E-01	6.2856E-03	8.2400E-04	H	5.0183E-02	9.1399E-04	3.0222E-04
H+	3.9254E-01	4.4174E-01	4.3900E-01	H+	4.4076E-01	4.4076E-01	4.2485E-01
M2	2.1484E-07	6.5923E-10	8.4425E-14	M2	2.0039E-01	6.5171E-12	9.7707E-13

PI = 2.00E+01 N/SO-M, US1 = 5.90F+04 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.5800E+03	2.6480E+04	4.6370E+04
T	7.3214E+01	1.7340E+02	2.4113E+02
RHD	1.2077E+01	4.1734E+01	5.0786E+01
M	5.0235E+02	9.9293E+02	1.1913E+03
A	1.4855E+01	2.4552E+01	3.1760E+01
S	2.6847E+00	2.8206E+00	2.9300E+00
Z	3.3773E+00	3.6563E+00	3.7869E+00
GAME	8.9304E-01	9.4971E-01	1.1049E+00
U	4.3709E+01	1.2639E+01	1.3645E+01

SPECIES	MOLE FRACTIONS
E-	4.6658E-01
ME	3.3261E-02
ME+	2.5903E-02
ME++	7.2751E-10
M	3.2776E-02
M+	4.4132E-01
M2	7.7533E-09
	5.0769E-01
	7.7290E-05
	3.9577E-02
	1.6047E-02
	5.9049E-04
	1.9197E-04
	4.2235E-01
	3.1031E-12
	5.2468E-01
	3.3440E-06
	1.2544E-03
	4.9531E-02
	1.9197E-04
	4.2235E-01
	3.1031E-12

PI = 2.00E+01 N/SO-M, US1 = 6.00F+04 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	3.1904E+03	2.7749E+04	4.9292E+04
T	7.7794E+01	1.9424E+02	2.7142E+02
RHD	1.1861E+01	4.0763E+01	4.7767E+01
M	5.3707E+02	9.5143E+02	1.2891E+03
A	1.5652E+01	2.5390E+01	3.4387E+01
S	2.7363E+00	2.8576E+00	2.9705E+00
Z	3.4576E+00	3.6940E+00	3.7956E+00
GAME	9.1251E-01	9.4707E-01	1.1461E+00
U	4.5141E+01	1.3133E+01	1.4925E+01

SPECIES	MOLE FRACTIONS
E-	4.7941E-01
ME	2.0429E-02
ME+	3.7014E-02
ME++	5.5717E-05
M	2.0345E-02
M+	4.4207E-01
M2	2.6722E-09
	5.1273E-01
	4.5519E-05
	2.9159E-02
	2.5937E-02
	4.3971E-04
	1.1930E-04
	4.2142E-01
	1.2437E-13

PI = 2.00E+01 N/SO-M, US1 = 5.20E+04 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.4664E+03	2.2867E+04	3.7831E+04
T	6.2747E+01	1.3113E+02	1.8335E+02
RHD	1.2427E+01	4.0583E+01	5.0431E+01
M	4.0391E+02	7.2438E+02	9.4479E+02
A	1.3614E+01	2.3628E+01	2.5466E+01
S	2.5229E+00	2.7004E+00	2.8010E+00
Z	3.0804E+00	3.5894E+00	3.6822E+00
GAME	8.7304E-01	1.1246E+00	9.4974E-01
U	3.9290E+01	1.0045E+01	1.1344E+01

SPECIES	MOLE FRACTIONS
E-	4.1601E-01
ME	5.9744E-02
ME+	5.0552E-03
ME++	1.1070E-12
M	1.0602E-01
M+	4.1175E-01
M2	1.0812E-07
	4.9852E-01
	5.5552E-04
	5.4901E-02
	2.6379E-04
	2.6699E-03
	4.4309E-01
	9.4474E-11
	5.1146E-01
	6.7042E-05
	3.1444E-02
	2.2507E-02
	5.8115E-04
	4.3394E-01
	3.9919E-14

PI = 2.00E+01 N/SO-M, US1 = 5.40E+04 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.5930E+03	2.3932E+04	4.0554E+04
T	6.3880E+01	1.4767E+02	1.9904E+02
RHD	1.2330E+01	4.9000E+01	5.4644E+01
M	4.3594E+02	7.7702E+02	1.0204E+03
A	1.3611E+01	2.3815E+01	2.6844E+01
S	2.5781E+00	2.7431E+00	2.8464E+00
Z	3.1919E+00	3.6015E+00	3.7230E+00
GAME	8.8124E-01	1.0682E+00	9.7034E-01
U	4.0775E+01	1.1174E+01	1.1864E+01

SPECIES	MOLE FRACTIONS
E-	4.3607E-01
ME	5.3600E-02
ME+	4.2545E-03
ME++	9.9912E-12
M	7.4656E-02
M+	4.2401E-01
M2	4.2355E-08
	5.0021E-01
	2.3580E-04
	5.3316E-02
	1.9810E-02
	1.3320E-03
	4.2933E-01
	1.9602E-11
	5.1606E-01
	3.3791E-05
	1.9417E-02
	3.4224E-02
	4.2923E-04
	4.2901E-01
	2.0673E-14

Table II. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M, US1 = 6.20E+04 M/SEC				P1 = 2.00E+01 N/50-M, US1 = 6.90E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3970E+03	2.8639E+04	5.1530E+04	P	4.0065E+03	2.7508E+04	5.1748E+04
T	8.3702E+01	1.9553E+02	3.3445E+02	T	1.1671E+02	2.3944E+02	4.0352E+02
RHC	1.1513E+01	3.9253E+01	4.4562E+01	RHC	9.5468E+00	3.0431E+01	3.3750E+01
H	5.7315E+02	1.0125E+03	1.3994E+03	H	6.9689E+02	1.1991E+03	1.6013E+03
A	1.6895E+01	2.6620E+01	3.6594E+01	A	2.1853E+01	3.1806E+01	4.2225E+01
S	2.7861E+00	2.8957E+00	3.2093E+00	S	2.9135E+00	3.0078E+00	3.1167E+00
Z	3.5242E+00	3.7314E+00	3.7982E+00	Z	3.5959E+00	3.7911E+00	3.7997E+00
GAME	9.6809E-01	9.6979E-01	1.1581E+00	GAME	1.1379E+00	1.1191E+00	1.1628E+00
U	4.6517E+01	1.3634E+01	1.5188E+01	U	5.0028E+01	1.5688E+01	1.9732E+01
E-	4.8925E-01	5.1760E-01	5.2610E-01	E-	4.9942E-01	5.2520E-01	5.2628E-01
HE	1.0059E-02	2.3763E-05	2.6022E-07	HE	2.8006E-04	1.4115E-06	8.5648E-09
HE+	4.6542E-02	1.8014E-02	3.8471E-04	HE+	5.5184E-02	2.2321E-03	5.1204E-05
HE++	5.6341E-08	3.5562E-02	5.2271E-02	HE++	1.5540E-04	5.0522E-02	5.2584E-02
H	1.1451E-02	3.3224E-04	7.5799E-05	H	1.0296E-03	1.1999E-04	2.4683E-05
H+	4.4255E-01	4.2847E-01	4.2117E-01	H+	4.4393E-01	4.2192E-01	4.2106E-01
H2	7.3413E-10	9.0771E-13	4.6351E-14	H2	3.1269E-12	9.5036E-14	3.5926E-15

P1 = 2.00E+01 N/SQ-M, US1 = 7.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2148E+03	2.6929E+04	5.1558E+04
T	1.3020E+02	2.5684E+02	4.3678E+01
RHO	8.9866E+00	2.7621E+01	3.1069E+01
H	7.2680E+02	1.2460E+03	1.7795E+03
A	2.2535E+01	3.3403E+01	4.3934E+01
S	2.9498E+00	3.0418E+00	3.1478E+00
Z	3.6322E+00	3.7959E+00	3.7998E+00
GAME	1.0828E+00	1.1444E+00	1.1630E+00
U	5.1125E+01	1.6624E+01	2.0787E+01

SPECIES	MOLE FRACTIONS	
E-	5.0030E-01	5.2580E-01
HE	1.0755E-04	4.8659E-07
HE+	5.4181E-02	1.0047E-03
HE++	1.2329E-03	5.1684E-02
H	5.1793E-04	9.331E-05
H+	4.4366E-01	4.2143E-01
H2	6.6464E-13	3.6312E-14

P1 = 2.00E+01 N/SQ-M, US1 = 6.40E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6012E+03	2.8740E+04	5.2430E+04
T	4.2327E+01	2.0755E+02	3.3949E+02
RHO	1.0930E+01	3.6822E+01	4.0788E+01
H	6.4315E+02	1.0725E+03	1.4998E+03
A	1.8677E+01	2.8134E+01	3.8647E+01
S	2.8330E+00	2.9331E+00	3.0467E+00
Z	3.5689E+00	3.7606E+00	3.7992E+00
GAME	1.0587E+00	1.0161E+00	1.1615E+00
U	4.7775E+01	1.4177E+01	1.7512E+01

SPECIES	MOLE FRACTIONS	
E-	4.9564E-01	5.2136E-01
HE	3.2387E-03	1.0834E-03
HE+	5.2700E-02	1.0199E-02
HE++	7.5049E-07	4.2574E-02
H	5.3762E-03	2.4592E-04
H+	4.4244E-01	4.2521E-01
H2	1.3248E-13	4.5572E-13

P1 = 2.00E+01 N/SQ-M, US1 = 6.60E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8020E+03	2.8162E+04	5.2217E+04
T	1.0374E+02	2.227E+02	3.7160E+02
RHO	1.0215E+01	3.3511E+01	3.6982E+01
H	6.4803E+02	1.1303E+03	1.5857E+03
A	2.0476E+01	3.0038E+01	4.0514E+01
S	2.8753E+00	2.9725E+00	3.0935E+00
Z	3.5886E+00	3.7809E+00	3.7995E+00
GAME	1.1262E+00	1.0736E+00	1.1625E+00
U	4.9523E+01	1.4908E+01	1.8683E+01

SPECIES	MOLE FRACTIONS	
E-	4.9840E-01	5.2393E-01
HE	5.1353E-04	3.9837E-06
HE+	5.4507E-02	4.8597E-03
HE++	1.2730E-03	4.8033E-02
H	2.2896E-03	1.7176E-04
H+	4.4357E-01	4.2300E-01
H2	1.5144E-11	1.9700E-11

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$p_1 = 50 \text{ N/m}^2$$

p ₁ = 5.00E+01 N/SQ-M, US1 = 4.00E+03 M/SEC				p ₁ = 5.00E+01 N/SQ-M, US1 = 7.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2572E+01	2.6296E+01	6.5014E+01	P	2.0900E+01	1.2714E+01	2.4515E+01
T	3.1782E+00	2.6838E+00	5.6944E+00	T	2.2745E+00	0.0145E+00	9.8105E+00
PHO	3.9401E+00	6.6009E+00	1.1419E+01	PHO	2.5104E+00	1.6703E+01	2.6782E+01
M	3.2447E+00	4.1057E+00	6.0130E+00	M	9.1079E+00	1.5044E+01	1.5825E+01
A	1.7739E+00	1.9740E+00	2.3294E+00	A	2.2014E+00	2.7464E+00	2.9775E+00
S	1.0583E+00	1.0659E+00	1.0720E+00	S	1.1377E+00	1.0010E+00	1.0128E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0014E+00	1.0014E+00	1.0040E+00
GAME	9.9100E-01	9.8105E-01	9.5283E-01	GAME	9.6470E-01	9.3745E-01	8.7405E-01
U	2.4570E+00	1.4729E+00	1.3059E+00	U	4.0708E+00	1.0000E+00	1.0000E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
F-	3.5338E-01	1.5872E-01	9.4889E-02	F-	4.8700E-01	1.0000E-01	1.0000E-01
HE	2.0000E-01	2.0000E-01	1.9999E-01	HE	1.0000E-01	1.0000E-01	1.0000E-01
HF+	7.9468E-01	1.4711E-01	2.9874E-01	HF+	2.0000E-01	1.0000E-01	1.0000E-01
HF++	0.	0.	0.	HF++	0.	0.	0.
H	1.7394E-09	5.5917E-07	2.9935E-04	H	1.2472E-09	5.5917E-07	1.0000E-01
M+	7.2402E-20	7.2402E-20	7.2402E-20	M+	4.0000E-01	1.0000E-01	1.0000E-01
M2	8.0000E-01	8.0000E-01	7.9966E-01	M2	7.0000E-01	1.0000E-01	1.0000E-01

PL = 4.00E+01 N/50-M, USI = 4.00E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9811E+01	4.2220E+01	1.1632E+02
T	4.4064E+00	4.9911E+00	7.6724E+01
PHN	4.4959E+00	8.8587E+00	1.4784E+01
M	4.4641E+00	4.2403E+00	8.8132E+00
A	2.0730E+00	2.3407E+00	2.5787E+00
S	1.0828E+00	1.0877E+00	1.10E8E+00
Z	1.0004E+00	1.0704E+00	1.0004E+00
GAME	9.7520E-01	9.4545E-01	8.6033E-01
U	3.1952E+00	1.4209E+00	1.3958E+00

SPECIES	MOLE FRACTIONS
E-	8.1355E-24
ME	7.0003E-01
ME+	1.0439E-02
ME++	5.6122E-47
M	0.
M+	7.1854E-04
M2	7.2402E-19
	7.9959E-01
	7.9970E-01
	4.0825E-14
	1.0942E-01
	1.42E9E-24
	0.
	1.7785E-02
	4.0892E-14
	7.8290E-01

PL = 4.00E+01 N/50-M, USI = 4.00E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4778E+01	7.2448E+01	1.7224E+02
T	4.9274E+00	7.7708E+00	8.9137E+00
PHN	1.0325E+00	1.1818E+00	1.9057E+01
M	4.1778E+00	0.0147E+00	1.0012E+01
A	2.2444E+00	2.5705E+00	2.7480E+00
S	1.1111E+00	1.1184E+00	1.1394E+00
Z	1.0004E+00	1.0704E+00	1.0004E+00
GAME	9.4477E-01	8.6122E-01	8.1143E-01
U	7.9952E+00	1.4209E+00	1.3958E+00

SPECIES	MOLE FRACTIONS
E-	7.8055E-24
ME	1.0003E-01
ME+	1.0439E-02
ME++	5.6122E-47
M	0.
M+	7.1854E-04
M2	7.2402E-19
	7.9959E-01
	7.9970E-01
	4.0825E-14
	1.0942E-01
	1.42E9E-24
	0.
	1.7785E-02
	4.0892E-14
	7.8290E-01

PL = 4.00E+01 N/50-M, USI = 4.00E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4778E+01	7.2448E+01	1.7224E+02
T	4.9274E+00	7.7708E+00	8.9137E+00
PHN	1.0325E+00	1.1818E+00	1.9057E+01
M	4.1778E+00	0.0147E+00	1.0012E+01
A	2.2444E+00	2.5705E+00	2.7480E+00
S	1.1111E+00	1.1184E+00	1.1394E+00
Z	1.0004E+00	1.0704E+00	1.0004E+00
GAME	9.4477E-01	8.6122E-01	8.1143E-01
U	7.9952E+00	1.4209E+00	1.3958E+00

SPECIES	MOLE FRACTIONS
E-	8.1355E-24
ME	7.0003E-01
ME+	1.0439E-02
ME++	5.6122E-47
M	0.
M+	7.1854E-04
M2	7.2402E-19
	7.9959E-01
	7.9970E-01
	4.0825E-14
	1.0942E-01
	1.42E9E-24
	0.
	1.7785E-02
	4.0892E-14
	7.8290E-01

PL = 4.00E+01 N/50-M, USI = 4.00E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4778E+01	7.2448E+01	1.7224E+02
T	4.9274E+00	7.7708E+00	8.9137E+00
PHN	1.0325E+00	1.1818E+00	1.9057E+01
M	4.1778E+00	0.0147E+00	1.0012E+01
A	2.2444E+00	2.5705E+00	2.7480E+00
S	1.1111E+00	1.1184E+00	1.1394E+00
Z	1.0004E+00	1.0704E+00	1.0004E+00
GAME	9.4477E-01	8.6122E-01	8.1143E-01
U	7.9952E+00	1.4209E+00	1.3958E+00

SPECIES	MOLE FRACTIONS
E-	7.8055E-24
ME	1.0003E-01
ME+	1.0439E-02
ME++	5.6122E-47
M	0.
M+	7.1854E-04
M2	7.2402E-19
	7.9959E-01
	7.9970E-01
	4.0825E-14
	1.0942E-01
	1.42E9E-24
	0.
	1.7785E-02
	4.0892E-14
	7.8290E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/SC-M0 US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4507E+01	8.0426E+02	8.3700E+02
T	2.4071E+00	1.1717E+01	1.2675E+01
PHN	8.3700E+00	2.0726E+01	8.1266E+01
M	1.1786E+01	2.6914E+01	3.1581E+01
A	2.8448E+00	1.4267E+00	1.4441E+00
S	1.2727E+00	1.2727E+00	1.2727E+00
Z	1.0935E+00	1.2727E+00	1.2727E+00
GAME	7.0971E-01	8.0559E-01	8.1551E-01
U	7.2366E+00	1.5708E+00	1.5105E+00

P1 = 5.00E+01 N/SC-M0 US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6081E+02	1.2655E+02	1.0173E+02
T	1.0827E+01	1.4371E+01	1.0748E+01
PHN	1.1726E+01	4.6170E+01	7.5557E+01
M	2.6161E+01	4.6607E+01	6.4384E+01
A	2.2876E+00	4.2712E+00	4.5830E+00
S	1.2351E+00	1.2727E+00	1.4839E+00
Z	1.2633E+00	1.0152E+00	1.5205E+00
GAME	8.0062E-01	8.2080E-01	8.4423E-01
U	9.7237E+00	1.6645E+00	1.4703E+00

SPECIES		MOLE FRACTIONS	
F-	4.4564E-10	1.0778E-07	4.0646E-07
HF	1.6081E-01	1.3108E-01	1.2741E-01
HF+	2.7607E-24	4.8228E-20	2.7444E-19
HF++	0.	4.3565E-74	1.4481E-57
H	3.0179E-01	6.9015E-01	7.6589E-01
H+	6.5544E-10	1.0778E-07	4.0646E-07
H2	4.4703E-01	1.0786E-01	1.1070E-01

PI = 0.000001 N/SEC-M, U151 = 1.000000 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.764900	1.764900	2.400000
T	1.122700	1.122700	1.770000
QMN	1.190000	1.190000	7.812000
M	3.010700	3.010700	4.200000
A	2.430700	2.430700	5.300000
S	1.300000	1.300000	1.500000
Z	1.300000	1.300000	1.500000
GAME	9.000000	9.000000	9.000000
U	1.000000	1.000000	1.000000

PI = 0.000001 N/SEC-M, U151 = 1.000000 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.000000	1.000000	1.000000
T	0.910000	0.910000	0.910000
QMN	0.910000	0.910000	0.910000
M	1.000000	1.000000	1.000000
A	2.000000	2.000000	2.000000
S	1.000000	1.000000	1.000000
Z	1.000000	1.000000	1.000000
GAME	7.000000	7.000000	7.000000
U	0.000000	0.000000	0.000000

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.270000	1.270000	1.270000
HF	1.530000	1.530000	1.530000
MF	2.000000	2.000000	2.000000
QMN	1.500000	1.500000	1.500000
M	1.500000	1.500000	1.500000
A	1.500000	1.500000	1.500000
S	1.500000	1.500000	1.500000
Z	1.500000	1.500000	1.500000
GAME	1.500000	1.500000	1.500000
U	1.500000	1.500000	1.500000

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.270000	1.270000	1.270000
HF	1.530000	1.530000	1.530000
MF	2.000000	2.000000	2.000000
QMN	1.500000	1.500000	1.500000
M	1.500000	1.500000	1.500000
A	1.500000	1.500000	1.500000
S	1.500000	1.500000	1.500000
Z	1.500000	1.500000	1.500000
GAME	1.500000	1.500000	1.500000
U	1.500000	1.500000	1.500000

PI = 0.000001 N/SEC-M, U151 = 1.000000 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.764900	1.764900	2.400000
T	1.122700	1.122700	1.770000
QMN	1.190000	1.190000	7.812000
M	3.010700	3.010700	4.200000
A	2.430700	2.430700	5.300000
S	1.300000	1.300000	1.500000
Z	1.300000	1.300000	1.500000
GAME	9.000000	9.000000	9.000000
U	1.000000	1.000000	1.000000

PI = 0.000001 N/SEC-M, U151 = 1.000000 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.000000	1.000000	1.000000
T	0.910000	0.910000	0.910000
QMN	0.910000	0.910000	0.910000
M	1.000000	1.000000	1.000000
A	2.000000	2.000000	2.000000
S	1.000000	1.000000	1.000000
Z	1.000000	1.000000	1.000000
GAME	7.000000	7.000000	7.000000
U	0.000000	0.000000	0.000000

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.270000	1.270000	1.270000
HF	1.530000	1.530000	1.530000
MF	2.000000	2.000000	2.000000
QMN	1.500000	1.500000	1.500000
M	1.500000	1.500000	1.500000
A	1.500000	1.500000	1.500000
S	1.500000	1.500000	1.500000
Z	1.500000	1.500000	1.500000
GAME	1.500000	1.500000	1.500000
U	1.500000	1.500000	1.500000

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.270000	1.270000	1.270000
HF	1.530000	1.530000	1.530000
MF	2.000000	2.000000	2.000000
QMN	1.500000	1.500000	1.500000
M	1.500000	1.500000	1.500000
A	1.500000	1.500000	1.500000
S	1.500000	1.500000	1.500000
Z	1.500000	1.500000	1.500000
GAME	1.500000	1.500000	1.500000
U	1.500000	1.500000	1.500000

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 50 \text{ N/m}^2$$

D1 = 5.00E+01 M/SEC-0.0 US1 = 1.60E+04 M/SEC				D1 = 5.00E+01 M/SEC-0.0 US1 = 1.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	2.290E+00	2.657E+00	3.70E+00	D	2.251E+00	2.271E+00	2.412E+00
T	1.217E+00	2.063E+00	2.170E+00	T	1.001E+00	2.500E+00	4.444E+00
PHM	1.211E+00	6.493E+00	6.440E+00	PHM	1.200E+00	5.120E+00	6.507E+00
M	2.017E+00	7.004E+00	9.48E+00	M	5.485E+00	9.807E+00	1.243E+00
A	2.778E+00	6.245E+00	7.707E+00	A	4.572E+00	7.017E+00	8.428E+00
S	1.440E+00	1.501E+00	1.474E+00	S	1.410E+00	1.700E+00	1.744E+00
Z	1.430E+00	1.781E+00	1.800E+00	Z	1.444E+00	1.825E+00	1.906E+00
GAME	0.134E+00	1.042E+00	1.037E+00	GAME	8.547E-01	7.541E-01	8.979E-01
U	1.214E+00	2.104E+00	2.08E+00	U	1.440E+00	2.014E+00	2.022E+00
SPECIES				SPECIES			
WILE REACTIONS				WILE REACTIONS			
E-	7.915E-00	7.737E-00	4.284E-00	E-	1.894E-00	1.420E-00	5.610E-00
HF	1.380E-00	1.122E-00	1.107E-00	HF	1.100E-00	1.000E-00	1.048E-00
HF+	2.007E-23	6.001E-14	1.515E-08	HF+	2.501E-20	2.544E-07	1.045E-05
HF++	1.408E-04	1.244E-10	8.310E-12	HF++	2.014E-20	1.000E-07	1.041E-05
H	4.011E-01	8.772E-01	8.700E-01	H	9.000E-00	9.000E-00	7.025E-00
H+	7.010E-00	7.737E-00	4.284E-00	H+	1.584E-00	1.520E-00	5.617E-00
H2	2.500E-01	1.060E-00	4.270E-00	H2	7.000E-00	2.700E-00	1.270E-00

Table II. - Continued

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/SQ-M, US1 = 2.20E+04 M/SEC				P1 = 5.00E+01 N/SQ-M, US1 = 2.50E+04 M/SEC			
P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
Y	1.75E+00	2.55E+00	5.77E+00	Y	2.20E+00	2.81E+00	5.50E+00
W	2.15E+00	4.61E+00	5.061E+00	W	2.20E+00	4.54E+00	5.50E+00
W	1.00E+00	2.00E+00	5.64E+00	W	9.00E+00	1.75E+00	4.82E+00
W	1.00E+00	2.00E+00	1.62E+00	W	9.00E+00	1.63E+00	2.01E+00
W	1.00E+00	2.00E+00	9.46E+00	W	7.44E+00	9.25E+00	1.02E+00
W	1.00E+00	2.00E+00	1.85E+00	W	1.82E+00	1.85E+00	1.95E+00
W	1.00E+00	2.00E+00	2.46E+00	W	1.82E+00	2.05E+00	2.19E+00
W	1.00E+00	2.00E+00	8.61E+00	W	9.20E+00	8.50E+00	8.42E+00
W	1.00E+00	2.00E+00	6.06E+00	W	1.82E+00	4.39E+00	4.39E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.641E-01	4.63E-02	1.10E-01	E-	1.49E-02	1.74E-01	1.81E-01
HF	1.11E-01	1.00E-01	5.77E-02	HF	1.00E-01	9.71E-02	9.07E-02
HF+	1.00E-01	1.00E-01	7.61E-02	HF+	7.74E-01	4.51E-01	2.85E-01
W	9.99E-01	1.27E-01	1.82E-01	W	8.00E-01	8.00E-01	1.45E-01
W	1.00E-01	1.00E-01	6.63E-01	W	1.00E-01	4.54E-01	5.44E-01
W	1.00E-01	1.00E-01	1.01E-01	W	1.00E-01	1.24E-01	1.81E-01
W	1.00E-01	1.00E-01	5.12E-01	W	7.44E-01	2.07E-01	2.74E-01

4M-D2/N 164300° = 16
JAS/M 40300° = 15N

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
1	5.2776e+02	5.1244e+01	5.2776e+03
2	5.2776e+02	5.1244e+01	5.2776e+03
3	5.2776e+02	5.1244e+01	5.2776e+03
4	5.2776e+02	5.1244e+01	5.2776e+03
5	5.2776e+02	5.1244e+01	5.2776e+03
6	5.2776e+02	5.1244e+01	5.2776e+03
7	5.2776e+02	5.1244e+01	5.2776e+03
8	5.2776e+02	5.1244e+01	5.2776e+03
9	5.2776e+02	5.1244e+01	5.2776e+03
10	5.2776e+02	5.1244e+01	5.2776e+03
11	5.2776e+02	5.1244e+01	5.2776e+03
12	5.2776e+02	5.1244e+01	5.2776e+03
13	5.2776e+02	5.1244e+01	5.2776e+03
14	5.2776e+02	5.1244e+01	5.2776e+03
15	5.2776e+02	5.1244e+01	5.2776e+03
16	5.2776e+02	5.1244e+01	5.2776e+03
17	5.2776e+02	5.1244e+01	5.2776e+03
18	5.2776e+02	5.1244e+01	5.2776e+03
19	5.2776e+02	5.1244e+01	5.2776e+03
20	5.2776e+02	5.1244e+01	5.2776e+03
21	5.2776e+02	5.1244e+01	5.2776e+03
22	5.2776e+02	5.1244e+01	5.2776e+03
23	5.2776e+02	5.1244e+01	5.2776e+03
24	5.2776e+02	5.1244e+01	5.2776e+03
25	5.2776e+02	5.1244e+01	5.2776e+03
26	5.2776e+02	5.1244e+01	5.2776e+03
27	5.2776e+02	5.1244e+01	5.2776e+03
28	5.2776e+02	5.1244e+01	5.2776e+03
29	5.2776e+02	5.1244e+01	5.2776e+03
30	5.2776e+02	5.1244e+01	5.2776e+03
31	5.2776e+02	5.1244e+01	5.2776e+03
32	5.2776e+02	5.1244e+01	5.2776e+03
33	5.2776e+02	5.1244e+01	5.2776e+03
34	5.2776e+02	5.1244e+01	5.2776e+03
35	5.2776e+02	5.1244e+01	5.2776e+03
36	5.2776e+02	5.1244e+01	5.2776e+03
37	5.2776e+02	5.1244e+01	5.2776e+03
38	5.2776e+02	5.1244e+01	5.2776e+03
39	5.2776e+02	5.1244e+01	5.2776e+03
40	5.2776e+02	5.1244e+01	5.2776e+03
41	5.2776e+02	5.1244e+01	5.2776e+03
42	5.2776e+02	5.1244e+01	5.2776e+03
43	5.2776e+02	5.1244e+01	5.2776e+03
44	5.2776e+02	5.1244e+01	5.2776e+03
45	5.2776e+02	5.1244e+01	5.2776e+03
46	5.2776e+02	5.1244e+01	5.2776e+03
47	5.2776e+02	5.1244e+01	5.2776e+03
48	5.2776e+02	5.1244e+01	5.2776e+03
49	5.2776e+02	5.1244e+01	5.2776e+03
50	5.2776e+02	5.1244e+01	5.2776e+03

SERIES	WILE FRACTIONS
F	1.4854E-02
ME	1.4814E-01
ME4	2.6371E-07
ME6	1.2481E-27
M	9.2866E-01
M4	2.4851E-02
M2	5.0097E-05
	1.4427E-01
	0.749E-02
	1.0177E-04
	5.1843E-18
	4.1267E-01
	1.4671E-01
	2.2178E-06
	2.4851E-02
	5.0097E-05
	2.2275E-05
	2.0220E-01
	0.0470E-01
	0.6000E-16
	0.8107E-22
	2.0259E-01

6-35/4 104300 R 100
JCS/M 760306 10511

	STANDING STOCK	REFLECTED STOCK
D	6,229,650.00	6,229,650.00
T	7,700,000.00	6,874,250.00
W	9,400,000.00	6,980,400.00
M	1,900,000.00	2,329,250.00
P	7,800,000.00	1,087,750.00
S	1,900,000.00	2,017,400.00
Z	1,900,000.00	2,329,250.00
2	8,725,000.00	8,447,350.00
3	6,229,650.00	6,229,650.00

[illegible]

$\mu_{35/0} = 1.51$ $\mu_{35/0} = 1.51$

[illegible][illegible]

$\frac{d\sigma}{d\Omega} = \frac{d^2\sigma}{d\Omega dE}$

[illegible]

Category	Year	Value	Unit
Grain	1960	1,000,000	metric tons
Grain	1961	1,200,000	metric tons
Grain	1962	1,400,000	metric tons
Grain	1963	1,600,000	metric tons
Grain	1964	1,800,000	metric tons
Grain	1965	2,000,000	metric tons
Grain	1966	2,200,000	metric tons
Grain	1967	2,400,000	metric tons
Grain	1968	2,600,000	metric tons
Grain	1969	2,800,000	metric tons
Grain	1970	3,000,000	metric tons
Grain	1971	3,200,000	metric tons
Grain	1972	3,400,000	metric tons
Grain	1973	3,600,000	metric tons
Grain	1974	3,800,000	metric tons
Grain	1975	4,000,000	metric tons
Grain	1976	4,200,000	metric tons
Grain	1977	4,400,000	metric tons
Grain	1978	4,600,000	metric tons
Grain	1979	4,800,000	metric tons
Grain	1980	5,000,000	metric tons
Grain	1981	5,200,000	metric tons
Grain	1982	5,400,000	metric tons
Grain	1983	5,600,000	metric tons
Grain	1984	5,800,000	metric tons
Grain	1985	6,000,000	metric tons
Grain	1986	6,200,000	metric tons
Grain	1987	6,400,000	metric tons
Grain	1988	6,600,000	metric tons
Grain	1989	6,800,000	metric tons
Grain	1990	7,000,000	metric tons
Grain	1991	7,200,000	metric tons
Grain	1992	7,400,000	metric tons
Grain	1993	7,600,000	metric tons
Grain	1994	7,800,000	metric tons
Grain	1995	8,000,000	metric tons
Grain	1996	8,200,000	metric tons
Grain	1997	8,400,000	metric tons
Grain	1998	8,600,000	metric tons
Grain	1999	8,800,000	metric tons
Grain	2000	9,000,000	metric tons
Grain	2001	9,200,000	metric tons
Grain	2002	9,400,000	metric tons
Grain	2003	9,600,000	metric tons
Grain	2004	9,800,000	metric tons
Grain	2005	10,000,000	metric tons
Grain	2006	10,200,000	metric tons
Grain	2007	10,400,000	metric tons
Grain	2008	10,600,000	metric tons
Grain	2009	10,800,000	metric tons
Grain	2010	11,000,000	metric tons
Grain	2011	11,200,000	metric tons
Grain	2012	11,400,000	metric tons
Grain	2013	11,600,000	metric tons
Grain	2014	11,800,000	metric tons
Grain	2015	12,000,000	metric tons
Grain	2016	12,200,000	metric tons
Grain	2017	12,400,000	metric tons
Grain	2018	12,600,000	metric tons
Grain	2019	12,800,000	metric tons
Grain	2020	13,000,000	metric tons
Grain	2021	13,200,000	metric tons
Grain	2022	13,400,000	metric tons
Grain	2023	13,600,000	metric tons
Grain	2024	13,800,000	metric tons
Grain	2025	14,000,000	metric tons
Grain	2026	14,200,000	metric tons
Grain	2027	14,400,000	metric tons
Grain	2028	14,600,000	metric tons
Grain	2029	14,800,000	metric tons
Grain	2030	15,000,000	metric tons
Grain	2031	15,200,000	metric tons
Grain	2032	15,400,000	metric tons
Grain	2033	15,600,000	metric tons
Grain	2034	15,800,000	metric tons
Grain	2035	16,000,000	metric tons
Grain	2036	16,200,000	metric tons
Grain	2037	16,400,000	metric tons
Grain	2038	16,600,000	metric tons
Grain	2039	16,800,000	metric tons
Grain	2040	17,000,000	metric tons
Grain	2041	17,200,000	metric tons
Grain	2042	17,400,000	metric tons
Grain	2043		

Table II. - Continued

 $P_1 = 50 \text{ kN/m}^2$

$P_1 = 5.00E+01 \text{ N/SEC}$ $US1 = 2.80E+04 \text{ M/SEC}$				$P_1 = 5.00E+01 \text{ N/SEC}$ $US1 = 2.80E+04 \text{ M/SEC}$			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
P	6.7403E+02	4.9857E+02	2.4120E+02	P	8.0123E+02	5.0001E+02	2.0000E+02
T	3.8724E+01	4.8745E+01	6.0444E+01	T	4.4100E+01	5.0000E+01	1.0423E+04
PM	0.1760E+00	4.0635E+01	6.1129E+01	PM	0.8744E+00	4.0000E+01	5.0000E+01
M	1.1719E+02	2.0870E+02	2.4137E+02	M	1.5700E+02	2.0000E+02	2.0000E+02
A	7.9722E+00	1.0244E+01	1.1222E+01	A	0.7438E+00	1.0000E+02	2.0000E+02
S	1.8049E+00	1.8004E+00	2.0426E+00	S	1.0000E+00	2.0000E+02	2.0000E+02
Z	1.9001E+00	2.2210E+00	2.3000E+00	Z	2.034E+00	2.0000E+02	2.0000E+02
GAME	8.4101E+01	8.4132E+01	8.4044E+01	GAME	8.4044E+01	2.0000E+02	2.0000E+02
U	2.0502E+01	4.6700E+00	6.4010E+00	U	2.0502E+01	2.0000E+02	2.0000E+02
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
F	5.4122E-02	1.8987E-01	2.4702E-01	F	1.0000E-01	2.0000E+02	2.0000E+02
ME	1.0404E-01	8.5784E-02	8.2822E-02	ME	0.0000E-01	2.0000E+02	2.0000E+02
MF	2.3500E-04	2.6387E-04	8.3602E-04	MF	0.0000E-01	2.0000E+02	2.0000E+02
M	1.4320E-04	1.4320E-04	1.4320E-04	M	0.0000E-01	2.0000E+02	2.0000E+02
M2	7.8462E-02	5.2104E-01	4.2311E-01	M2	0.0000E-01	2.0000E+02	2.0000E+02
	5.5100E-02	1.8921E-01	2.4610E-01		0.0000E-01	2.0000E+02	2.0000E+02
	3.7493E-02	2.2240E-04	1.4727E-05		0.0000E-01	2.0000E+02	2.0000E+02

P1 = 9.000001 N/SEC-11 USL = 2.999999 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2791000	6.4340000	9.0800000
T	4.0291000	6.4340000	6.2850000
RMN	9.3200000	4.2040000	9.2810000
M	1.2840000	2.2170000	2.4040000
A	8.1820000	1.0850000	1.1880000
S	1.9180000	2.0000000	2.0000000
Z	1.9370000	2.2900000	2.4800000
GAME	8.6260000	8.6260000	8.6260000
U	2.1170000	4.7720000	4.6930000

SPECIES	MOLE FRACTIONS
F-	7.0890000
HE	1.7730000
ME	4.7140000
ME+	1.9930000
M	7.9450000
M+	7.7870000
M2	2.9000000

P1 = 9.000001 N/SEC-11 USL = 2.999999 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2791000	6.4340000	9.0800000
T	4.0291000	6.4340000	6.2850000
RMN	9.3200000	4.2040000	9.2810000
M	1.2840000	2.2170000	2.4040000
A	8.1820000	1.0850000	1.1880000
S	1.9180000	2.0000000	2.0000000
Z	1.9370000	2.2900000	2.4800000
GAME	8.6260000	8.6260000	8.6260000
U	2.1170000	4.7720000	4.6930000

SPECIES	MOLE FRACTIONS
F-	7.0890000
HE	1.7730000
ME	4.7140000
ME+	1.9930000
M	7.9450000
M+	7.7870000
M2	2.9000000

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

P1 = 9.000001 N/SEC-11 USL = 2.999999 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2791000	6.4340000	9.0800000
T	4.0291000	6.4340000	6.2850000
RMN	9.3200000	4.2040000	9.2810000
M	1.2840000	2.2170000	2.4040000
A	8.1820000	1.0850000	1.1880000
S	1.9180000	2.0000000	2.0000000
Z	1.9370000	2.2900000	2.4800000
GAME	8.6260000	8.6260000	8.6260000
U	2.1170000	4.7720000	4.6930000

SPECIES	MOLE FRACTIONS
F-	7.0890000
HE	1.7730000
ME	4.7140000
ME+	1.9930000
M	7.9450000
M+	7.7870000
M2	2.9000000

P1 = 9.000001 N/SEC-11 USL = 2.999999 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2791000	6.4340000	9.0800000
T	4.0291000	6.4340000	6.2850000
RMN	9.3200000	4.2040000	9.2810000
M	1.2840000	2.2170000	2.4040000
A	8.1820000	1.0850000	1.1880000
S	1.9180000	2.0000000	2.0000000
Z	1.9370000	2.2900000	2.4800000
GAME	8.6260000	8.6260000	8.6260000
U	2.1170000	4.7720000	4.6930000

SPECIES	MOLE FRACTIONS
F-	7.0890000
HE	1.7730000
ME	4.7140000
ME+	1.9930000
M	7.9450000
M+	7.7870000
M2	2.9000000

$$p_1 = 50 \text{ N/m}^2$$

REFLECTED SMOCK				STATIONING SMOCK				REFLECTED SMOCK			
REFLECTED SMOCK				STATIONING SMOCK				REFLECTED SMOCK			
P	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	P	1.25000000	1.25000000	1.25000000
T	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	T	1.25000000	1.25000000	1.25000000
B	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	B	1.25000000	1.25000000	1.25000000
M	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	M	1.25000000	1.25000000	1.25000000
A	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	A	1.25000000	1.25000000	1.25000000
S	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	S	1.25000000	1.25000000	1.25000000
Z	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	Z	1.25000000	1.25000000	1.25000000
G	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	G	1.25000000	1.25000000	1.25000000
U	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	1.25000000	U	1.25000000	1.25000000	1.25000000

PI = 5.00E+01 N/SC-M, USIS = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.409E+02	1.249E+04	1.065E+04
T	5.284E+01	7.863E+01	9.018E+01
BMN	1.110E+02	5.362E+01	4.361E+01
M	2.900E+02	4.201E+02	5.219E+02
A	1.030E+01	1.464E+01	1.662E+01
S	2.184E+00	2.227E+00	2.624E+00
Z	2.671E+00	2.017E+00	3.263E+00
GAME	8.492E-01	8.967E-01	9.172E-01
U	2.997E+01	4.103E+00	4.265E+00

SPECIES	WHILE FRACTIONS
E-	2.504E-01
HE	8.307E-02
HE+	2.077E-02
HE++	1.779E-02
M	2.141E-14
M+	1.091E-01
M++	2.907E-01
M2	1.320E-04

PI = 5.00E+01 N/SC-M, USIS = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.409E+02	1.249E+04	1.065E+04
T	5.284E+01	7.863E+01	9.018E+01
BMN	1.110E+02	5.362E+01	4.361E+01
M	2.900E+02	4.201E+02	5.219E+02
A	1.030E+01	1.464E+01	1.662E+01
S	2.184E+00	2.227E+00	2.624E+00
Z	2.671E+00	2.017E+00	3.263E+00
GAME	8.492E-01	8.967E-01	9.172E-01
U	2.997E+01	4.103E+00	4.265E+00

SPECIES	WHILE FRACTIONS
E-	2.504E-01
HE	8.307E-02
HE+	2.077E-02
HE++	1.779E-02
M	2.141E-14
M+	1.091E-01
M++	2.907E-01
M2	1.320E-04

PI = 5.00E+01 N/SC-M, USIS = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.877E+02	1.760E+04	7.591E+04
T	5.928E+01	9.678E+01	1.300E+02
BMN	1.164E+01	5.610E+01	5.784E+01
M	1.164E+02	5.678E+02	7.140E+02
A	1.172E+01	1.745E+01	2.268E+01
S	2.347E+00	2.543E+00	2.621E+00
Z	2.710E+00	2.203E+00	2.640E+00
GAME	8.410E-01	8.432E-01	1.108E+00
U	3.440E+01	7.630E+00	8.714E+00

SPECIES	WHILE FRACTIONS
E-	2.367E-01
HE	7.337E-02
HE+	1.909E-02
HE++	7.017E-02
M	2.303E-14
M+	1.261E-01
M++	4.002E-01
M2	1.666E-07

PI = 5.00E+01 N/SC-M, USIS = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.877E+02	1.760E+04	7.591E+04
T	5.928E+01	9.678E+01	1.300E+02
BMN	1.164E+01	5.610E+01	5.784E+01
M	1.164E+02	5.678E+02	7.140E+02
A	1.172E+01	1.745E+01	2.268E+01
S	2.347E+00	2.543E+00	2.621E+00
Z	2.710E+00	2.203E+00	2.640E+00
GAME	8.410E-01	8.432E-01	1.108E+00
U	3.440E+01	7.630E+00	8.714E+00

SPECIES	WHILE FRACTIONS
E-	2.367E-01
HE	7.337E-02
HE+	1.909E-02
HE++	7.017E-02
M	2.303E-14
M+	1.261E-01
M++	4.002E-01
M2	1.666E-07

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.000E+01 N/50-M0 US1 = 5.000E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2145E+02	2.0404E+04	3.3069E+04
T	6.618E+01	1.1609E+02	1.0951E+02
QPM	1.1778E+01	4.0648E+01	6.2017E+01
M	3.7333E+02	4.6047E+02	8.7088E+02
A	1.7814E+01	2.0644E+01	2.5217E+01
S	2.6601E+00	2.2222E+00	2.7300E+00
Z	2.9281E+00	2.6604E+00	2.6300E+00
GAME	8.7377E-01	1.0684E+00	1.0008E+00
U	2.7804E+01	8.9249E+00	1.0909E+01

P1 = 5.000E+01 N/50-M0 US1 = 5.000E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2145E+02	2.0404E+04	3.3069E+04
T	6.618E+01	1.1609E+02	1.0951E+02
QPM	1.1778E+01	4.0648E+01	6.2017E+01
M	3.7333E+02	4.6047E+02	8.7088E+02
A	1.7814E+01	2.0644E+01	2.5217E+01
S	2.6601E+00	2.2222E+00	2.7300E+00
Z	2.9281E+00	2.6604E+00	2.6300E+00
GAME	8.7377E-01	1.0684E+00	1.0008E+00
U	2.7804E+01	8.9249E+00	1.0909E+01

SPECIES			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F-	5.0271E-01	5.0271E-01	5.0271E-01
HE	2.7891E-04	2.7891E-04	2.7891E-04
HE+	4.7671E-02	4.7671E-02	4.7671E-02
HE++	7.6901E-02	7.6901E-02	7.6901E-02
M	1.7004E-02	1.7004E-02	1.7004E-02
M+	4.4099E-01	4.4099E-01	4.4099E-01
M2	8.1574E-11	8.1574E-11	8.1574E-11

PI = 5.00E+01 M/SEC-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	DEFLECTED SHOCK
B	2.204E+02	2.184E+04	2.807E+04
T	4.698E+01	1.213E+02	1.012E+02
BMN	1.777E+01	4.894E+01	5.124E+01
M	4.031E+02	7.208E+02	9.645E+02
A	1.237E+01	2.792E+01	2.697E+01
S	2.673E+00	2.679E+00	2.781E+00
Z	3.838E+00	3.837E+00	3.894E+00
GAME	8.707E-01	1.117E+00	0.448E-01
U	2.900E+01	1.001E+01	1.141E+01

SPECIES	MIN E	MAX E	REACTIONS
F-	4.070E-01	4.047E-01	5.081E-01
HC	5.915E-02	1.275E-02	1.634E-04
HE+	4.316E-02	6.640E-02	3.680E-02
HE++	5.467E-12	1.187E-04	1.741E-02
H	1.267E+01	4.182E-02	1.145E-02
H+	4.007E-01	4.417E-01	4.244E-01
H2	2.462E-02	1.191E-09	2.627E-11

PI = 5.00E+01 M/SEC-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	DEFLECTED SHOCK
B	2.591E+02	2.245E+04	2.807E+04
T	7.778E+01	1.601E+02	2.077E+02
BMN	1.177E+01	4.270E+01	5.479E+01
M	4.261E+02	7.201E+02	1.071E+03
A	1.205E+01	2.679E+01	2.719E+01
S	2.665E+00	2.674E+00	2.722E+00
Z	3.837E+00	3.808E+00	3.877E+00
GAME	8.940E-01	1.117E+00	0.448E-01
U	2.900E+01	1.001E+01	1.141E+01

SPECIES	MIN E	MAX E	REACTIONS
F-	4.070E-01	4.047E-01	5.081E-01
HC	5.915E-02	1.275E-02	1.634E-04
HE+	4.316E-02	6.640E-02	3.680E-02
HE++	5.467E-12	1.187E-04	1.741E-02
H	1.267E+01	4.182E-02	1.145E-02
H+	4.007E-01	4.417E-01	4.244E-01
H2	2.462E-02	1.191E-09	2.627E-11

PI = 5.00E+01 M/SEC-M, US1 = 5.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	DEFLECTED SHOCK
B	2.977E+02	2.604E+04	3.222E+04
T	7.724E+01	1.771E+02	2.233E+02
BMN	1.164E+01	2.881E+01	4.015E+01
M	4.201E+02	7.189E+02	1.089E+03
A	1.201E+01	2.670E+01	2.739E+01
S	2.658E+00	2.670E+00	2.733E+00
Z	3.828E+00	3.820E+00	3.873E+00
GAME	8.970E-01	0.781E-01	1.049E+00
U	2.900E+01	1.000E+01	1.137E+01

SPECIES	MIN E	MAX E	REACTIONS
F-	4.070E-01	4.047E-01	5.081E-01
HC	5.915E-02	1.275E-02	1.634E-04
HE+	4.316E-02	6.640E-02	3.680E-02
HE++	5.467E-12	1.187E-04	1.741E-02
H	1.267E+01	4.182E-02	1.145E-02
H+	4.007E-01	4.417E-01	4.244E-01
H2	2.462E-02	1.191E-09	2.627E-11

PI = 5.00E+01 M/SEC-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	DEFLECTED SHOCK
B	2.174E+02	2.424E+04	2.704E+04
T	8.170E+01	1.817E+02	2.210E+02
BMN	1.177E+01	2.880E+01	4.017E+01
M	4.264E+02	7.189E+02	1.089E+03
A	1.204E+01	2.679E+01	2.739E+01
S	2.665E+00	2.674E+00	2.722E+00
Z	3.837E+00	3.808E+00	3.877E+00
GAME	8.940E-01	0.781E-01	1.049E+00
U	2.900E+01	1.000E+01	1.137E+01

SPECIES	MIN E	MAX E	REACTIONS
F-	4.070E-01	4.047E-01	5.081E-01
HC	5.915E-02	1.275E-02	1.634E-04
HE+	4.316E-02	6.640E-02	3.680E-02
HE++	5.467E-12	1.187E-04	1.741E-02
H	1.267E+01	4.182E-02	1.145E-02
H+	4.007E-01	4.417E-01	4.244E-01
H2	2.462E-02	1.191E-09	2.627E-11

Table II. - Continued

$$\rho_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/SC-M, US1 = 5.00E+04 M/SEC				P1 = 5.00E+01 N/SC-M, US1 = 4.80E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
P	3.78E+03	5.70E+04	5.96E+04	P	4.00E+03	5.70E+04	5.12E+04
T	8.73E+03	5.70E+04	3.03E+03	T	1.17E+03	5.70E+04	4.03E+03
CHP	1.12E+03	5.70E+04	4.70E+03	CHP	0.67E+03	5.70E+04	3.34E+03
M	5.72E+03	5.70E+04	1.28E+03	M	4.84E+03	5.70E+04	1.47E+03
A	1.70E+03	5.70E+04	5.63E+03	A	2.18E+03	5.70E+04	4.21E+03
S	2.78E+03	5.70E+04	2.98E+03	S	2.88E+03	5.70E+04	3.09E+03
Z	2.88E+03	5.70E+04	3.08E+03	Z	2.88E+03	5.70E+04	3.09E+03
GAUF	0.70E+03	5.70E+04	1.01E+03	GAUF	1.17E+03	5.70E+04	1.14E+03
U	2.43E+03	5.70E+04	1.41E+03	U	4.98E+03	5.70E+04	1.97E+03
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.87E+03	5.16E+03	5.25E+03	E-	4.98E+03	5.23E+03	5.26E+03
He	1.12E+03	7.13E+03	1.19E+03	He	4.38E+03	7.17E+03	1.25E+03
HF	4.13E+03	5.70E+03	0.26E+03	HF	5.70E+03	4.74E+03	1.27E+03
MF	4.77E+03	2.98E+03	5.17E+03	MF	7.44E+03	4.81E+03	5.25E+03
M	1.70E+03	4.07E+03	1.64E+03	M	7.40E+03	7.84E+03	6.13E+03
U	4.07E+03	4.07E+03	4.07E+03	U	4.62E+03	4.62E+03	4.62E+03
M	4.07E+03	4.07E+03	4.07E+03	M	4.10E+03	1.16E+03	5.81E+03

$$25/15 \text{ } 904207^{\circ} 2 \text{ } 21511 \quad 64-03/15 \text{ } 9104207^{\circ} 2 \text{ } 21511$$

	MOVING SUMMR	STANDING SUMMR	REFLECTED SUMMR
P	6.3122E+2	2.6777E+02	5.1626E+04
T	1.3072E+07	2.6747E+02	4.3747E+02
W	8.9412E+01	2.7096E+01	2.0028E+01
M	7.2454E+02	1.2457E+02	1.7709E+03
4	2.2018E+01	2.3164E+01	4.2043E+01
5	7.9226E+00	2.0120E+00	3.1226E+00
6	3.5045E+00	1.7204E+00	3.7995E+00
7	1.0112E+00	1.2967E+00	1.1678E+00
8	6.0135E+01	1.6725E+01	2.0029E+01

SPECIES	MOLE FRACTIONS	
F-	4.094E-01	5.201E-01
HF	2.674E-04	2.771E-04
HF ₂	5.486E-09	5.333E-09
HF ₃	5.387E-07	5.027E-02
H	1.259E-03	2.034E-04
H ₂	2.634E-01	4.210E-01
H ₂	3.753E-11	5.331E-11
		2.740E-14
		4.210E-01
		4.094E-01
		2.674E-04
		5.486E-09
		5.387E-07
		1.259E-03
		2.634E-01
		3.753E-11
		2.740E-14
		4.210E-01
		4.094E-01
		2.674E-04
		5.486E-09
		5.387E-07
		1.259E-03
		2.634E-01
		3.753E-11
		2.740E-14
		4.210E-01
		4.094E-01
		2.674E-04
		5.486E-09
		5.387E-07
		1.259E-03
		2.634E-01
		3.753E-11
		2.740E-14
		4.210E-01
		4.094E-01
		2.674E-04
		5.486E-09
		5.387E-07
		1.259E-03
		2.634E-01
		3.753E-11
		2.740E-14
		4.210E-01
		4.094E-01
		2.674E-04
		5.486E-09
		5.387E-07
		1.259E-03
		2.634E-01
		3.753E-11
		2.740E-14
		4.210E-01
		4.094E-01
		2.674E-04
		5.486E-09
		5.387E-07
		1.259E-03
		2.634E-01
		3.753E-11
		2.740E-14
		4.210E-01
		4.094E-01
		2.674E-04
		5.486E-09
		5.387E-07
		1.259E-03
		2.634E-01
		3.753E-11
		2.740E-14
		4.210E-01
		4.094E-01
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		2.674E-04
		5.486E-09
		5.387E-07
		1.259E-03
		2.634E-01
		3.753E-11
		2.740E-14
		4.210E-01
		4.094E-01
		2.674E-04
		5.486E-09
		5.387E-07
		1.259E-03
		2.634E-01
		3.753E-11
		2.740E-14
		4.210E-01
		4.094E-01
		2.674E-04
		5.486E-09
		5.387E-07
		1.259E-03
		2.634E-01

[illegible]

DATE	STATION	TIME	WIND	TEMP	REL	WIND	TEMP	REL
1-1	1000	1000	1000	1000	1000	1000	1000	1000
1-2	1000	1000	1000	1000	1000	1000	1000	1000
1-3	1000	1000	1000	1000	1000	1000	1000	1000
1-4	1000	1000	1000	1000	1000	1000	1000	1000
1-5	1000	1000	1000	1000	1000	1000	1000	1000
1-6	1000	1000	1000	1000	1000	1000	1000	1000
1-7	1000	1000	1000	1000	1000	1000	1000	1000
1-8	1000	1000	1000	1000	1000	1000	1000	1000
1-9	1000	1000	1000	1000	1000	1000	1000	1000
1-10	1000	1000	1000	1000	1000	1000	1000	1000
1-11	1000	1000	1000	1000	1000	1000	1000	1000
1-12	1000	1000	1000	1000	1000	1000	1000	1000
1-13	1000	1000	1000	1000	1000	1000	1000	1000
1-14	1000	1000	1000	1000	1000	1000	1000	1000
1-15	1000	1000	1000	1000	1000	1000	1000	1000
1-16	1000	1000	1000	1000	1000	1000	1000	1000
1-17	1000	1000	1000	1000	1000	1000	1000	1000
1-18	1000	1000	1000	1000	1000	1000	1000	1000
1-19	1000	1000	1000	1000	1000	1000	1000	1000
1-20	1000	1000	1000	1000	1000	1000	1000	1000
1-21	1000	1000	1000	1000	1000	1000	1000	1000
1-22	1000	1000	1000	1000	1000	1000	1000	1000
1-23	1000	1000	1000	1000	1000	1000	1000	1000
1-24	1000	1000	1000	1000	1000	1000	1000	1000
1-25	1000	1000	1000	1000	1000	1000	1000	1000
1-26	1000	1000	1000	1000	1000	1000	1000	1000
1-27	1000	1000	1000	1000	1000	1000	1000	1000
1-28	1000	1000	1000	1000	1000	1000	1000	1000
1-29	1000	1000	1000	1000	1000	1000	1000	1000
1-30	1000	1000	1000	1000	1000	1000	1000	1000
1-31	1000	1000	1000	1000	1000	1000	1000	1000
1-32	1000	1000	1000	1000	1000	1000	1000	1000
1-33	1000	1000	1000	1000	1000	1000	1000	1000
1-34	1000	1000	1000	1000	1000	1000	1000	1000
1-35	1000	1000	1000	1000	1000	1000	1000	1000
1-36	1000	1000	1000	1000	1000	1000	1000	1000
1-37	1000	1000	1000	1000	1000	1000	1000	1000
1-38	1000	1000	1000	1000	1000	1000	1000	1000
1-39	1000	1000	1000	1000	1000	1000	1000	1000
1-40	1000	1000	1000	1000	1000	1000	1000	1000
1-41	1000	1000	1000	1000	1000	1000	1000	1000
1-42	1000	1000	1000					

0-3/A 64207 = ad
032/m 64207 = 2511

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	24
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Serial Number	Ship Name	Ship Type	Ship Class
1	USSA 1001	Submarine	SSN-581
2	USSA 1002	Submarine	SSN-582
3	USSA 1003	Submarine	SSN-583
4	USSA 1004	Submarine	SSN-584
5	USSA 1005	Submarine	SSN-585
6	USSA 1006	Submarine	SSN-586
7	USSA 1007	Submarine	SSN-587
8	USSA 1008	Submarine	SSN-588
9	USSA 1009	Submarine	SSN-589
10	USSA 1010	Submarine	SSN-590
11	USSA 1011	Submarine	SSN-591
12	USSA 1012	Submarine	SSN-592
13	USSA 1013	Submarine	SSN-593
14	USSA 1014	Submarine	SSN-594
15	USSA 1015	Submarine	SSN-595
16	USSA 1016	Submarine	SSN-596
17	USSA 1017	Submarine	SSN-597
18	USSA 1018	Submarine	SSN-598
19	USSA 1019	Submarine	SSN-599
20	USSA 1020	Submarine	SSN-600

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$p_1 = 100 \text{ N/m}^2$$

p1 = 1.00E+02 N/SQ-M, US1 = 4.00E+02 M/SEC					p1 = 1.00E+02 N/SQ-M, US1 = 7.00E+02 M/SEC				
		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P		1.2672E+01	2.6294E+01	6.5048E+01	P		3.0794E+01	2.6304E+01	2.6304E+01
T		3.1753E+01	3.9838E+01	5.4080E+01	T		7.2304E+01	7.0454E+01	1.0164E+01
RHO		3.9401E+01	5.4009E+01	1.1414E+01	RHO		5.4009E+01	1.6074E+01	2.4004E+01
M		3.2461E+01	4.1057E+01	4.0138E+01	M		8.1004E+01	1.2644E+01	1.8004E+01
A		1.7730E+01	1.9740E+01	2.3327E+01	A		2.5004E+01	2.7904E+01	2.9804E+01
S		1.0545E+01	1.0751E+01	1.0751E+01	S		1.0545E+01	1.1545E+01	1.1845E+01
Z		1.0000E+01	1.0000E+01	1.0000E+01	Z		1.0000E+01	1.0000E+01	1.0000E+01
GAME		9.9100E-01	9.8106E-01	9.5488E-01	GAME		8.7707E-01	9.1975E-01	9.1975E-01
U		2.4570E+01	1.4729E+01	1.3057E+01	U		6.4000E+01	1.0000E+01	1.0000E+01
SPECIES		MOLE FRACTIONS			SPECIES		MOLE FRACTIONS		
E-		1.2494E-01	7.0786E-28	3.7595E-22	E-		7.4472E-14	1.4447E-11	2.8774E-11
HE		2.0000E-01	2.0000E-01	1.9997E-01	HE		1.9804E-01	1.0777E-01	1.9804E-01
HF+		1.1267E-04	2.2444E-07	4.2498E-08	HF+		1.1464E-08	4.7177E-01	7.8744E-28
HE++		0.	0.	0.	HE++		0.	0.	0.
H+		1.2371E-01	3.9530E-07	2.8830E-06	H+		1.0494E-01	7.8007E-01	1.6444E-01
H2		7.2402E-20	7.2402E-20	7.2402E-20	H2		2.6477E-14	1.6444E-01	2.8774E-11
		8.3000E-01	8.3000E-01	7.6674E-01			7.9704E-01	7.9704E-01	4.6004E-01

PI = 1.00E+02 N/SQ-M, US1 = 5.00E+02 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9811E+01	5.2170E+01	1.1448E+02
T	4.0064E+00	5.8540E+00	7.7580E+00
BMN	4.4945E+00	8.8455E+00	1.4647E+01
A	4.5441E+00	4.2446E+00	8.8500E+00
S	2.0771E+00	2.3486E+00	2.6082E+00
Z	1.0083E+00	1.0007E+00	1.1091E+00
GAME	9.783E-01	9.490E-01	1.0074E+00
U	3.1953E+00	1.4225E+00	1.4119E+00

SERIES	MOLE FRACTIONS
F-	7.8814E-34
HF	2.0000E-01
HF+	1.4772E-07
HF++	0.0
H	5.0881E-06
H+	7.2402E-20
H?	8.0000E-01

PI = 1.00E+02 N/SQ-M, US1 = 4.00E+02 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8770E+01	9.1740E+01	1.7402E+02
T	5.8311E+00	7.8128E+00	9.1260E+00
BMN	4.9312E+00	1.1432E+01	1.8737E+01
A	4.1773E+00	9.9035E+00	1.2040E+01
S	2.3522E+00	2.4077E+00	7.7844E+00
Z	1.1148E+00	1.1177E+00	1.1631E+00
GAME	1.0000E+00	1.0000E+00	1.0047E+00
U	0.4837E-01	8.4420E-01	8.2206E-01

SERIES	MOLE FRACTIONS
F-	1.0467E-34
HF	1.0000E-01
HF+	8.3770E-07
HF++	0.0
H	4.0771E-06
H+	5.2300E-20
H?	7.9953E-01

PI = 1.00E+02 N/SQ-M, US1 = 8.00E+02 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4000E+01	7.5000E+01	3.5500E+02
T	8.2847E+00	1.0000E+01	1.1000E+01
BMN	4.2500E+00	1.0000E+01	1.1000E+01
A	1.0000E+00	1.0000E+00	2.0000E+00
S	2.0000E+00	1.0000E+00	1.0000E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.0000E-01	9.0000E-01	9.0000E-01
U	5.0000E+00	5.0000E+00	5.0000E+00

SERIES	MOLE FRACTIONS
F-	7.7475E-34
HF	1.0000E-01
HF+	9.0000E-07
HF++	0.0
H	5.4711E-06
H+	7.7475E-20
H?	7.0000E-01

PI = 1.00E+02 N/SQ-M, US1 = 2.00E+02 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0000E+01	7.0000E+01	7.0000E+02
T	8.0000E+00	1.0000E+01	1.0000E+01
BMN	4.0000E+00	1.0000E+01	1.0000E+01
A	1.0000E+00	1.0000E+00	2.0000E+00
S	2.0000E+00	1.0000E+00	1.0000E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.0000E-01	9.0000E-01	9.0000E-01
U	5.0000E+00	5.0000E+00	5.0000E+00

SERIES	MOLE FRACTIONS
F-	1.0000E-34
HF	1.0000E-01
HF+	1.0000E-07
HF++	0.0
H	1.0000E-06
H+	1.0000E-20
H?	1.0000E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SQ-M, US1 = 1.00E+04 M/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 1.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
OFFLECTED SHOCK				OFFLECTED SHOCK			
SPECIES				SPECIES			
P	1.49E+02	1.39E+02	1.86E+02	P	1.49E+02	1.39E+02	1.86E+02
T	1.12E+01	1.45E+01	1.45E+01	T	1.12E+01	1.45E+01	1.45E+01
RHM	1.07E+01	5.97E+01	7.07E+01	RHM	1.07E+01	5.97E+01	7.07E+01
M	2.61E+01	2.61E+01	5.64E+01	M	2.61E+01	2.61E+01	5.64E+01
A	2.32E+01	4.25E+01	4.78E+01	A	2.32E+01	4.25E+01	4.78E+01
S	1.24E+00	1.43E+00	1.43E+00	S	1.24E+00	1.43E+00	1.43E+00
Z	1.23E+00	1.45E+00	1.45E+00	Z	1.23E+00	1.45E+00	1.45E+00
GAME	9.04E+01	9.04E+01	9.04E+01	GAME	9.04E+01	9.04E+01	9.04E+01
U	6.40E+01	1.77E+01	1.74E+01	U	6.40E+01	1.77E+01	1.74E+01
SPECIES				SPECIES			
F-	1.30E+01	2.54E+00	1.06E+00	F-	1.30E+01	2.54E+00	1.06E+00
HE	1.87E+01	1.47E+01	1.47E+01	HE	1.87E+01	1.47E+01	1.47E+01
ME+	2.37E+00	1.07E+00	2.42E+00	ME+	2.37E+00	1.07E+00	2.42E+00
ME+	2.37E+00	4.11E+01	1.98E+01	ME+	2.37E+00	4.11E+01	1.98E+01
M	1.41E+01	2.47E+01	4.54E+01	M	1.41E+01	2.47E+01	4.54E+01
M+	1.30E+01	2.54E+00	1.06E+00	M+	1.30E+01	2.54E+00	1.06E+00
U2	6.54E+01	1.40E+01	2.80E+01	U2	6.54E+01	1.40E+01	2.80E+01

P1 = 1.00E+02 N/SQ-M, US1 = 1.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.741E+02	1.447E+02	2.300E+02
T	1.174E+01	1.618E+01	1.062E+01
DMN	1.198E+01	4.644E+01	7.339E+01
M	7.017E+01	2.386E+01	4.277E+01
A	7.607E+00	4.277E+00	6.439E+00
S	1.280E+01	1.484E+00	1.640E+00
Z	1.200E+00	1.600E+00	1.714E+00
GAME	4.084E+01	4.644E+01	9.219E+01
U	1.060E+01	1.874E+00	1.990E+00

SERIES ----- MILE FRACCTIONS -----

SERIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.200E+00	4.400E+02	4.400E+04
ME	2.200E+01	1.250E+01	1.448E+01
ME+	2.200E+02	7.144E+01	1.448E+01
ME++	4.644E+00	4.644E+00	4.644E+00
M	4.644E+01	7.607E+01	4.277E+01
M+	7.607E+02	4.644E+01	4.644E+01
M2	7.607E+01	1.250E+01	1.448E+01

P1 = 1.00E+02 N/SQ-M, US1 = 1.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.007E+02	2.018E+03	2.900E+03
T	1.218E+01	1.789E+01	2.358E+01
DMN	1.218E+01	6.640E+01	6.883E+01
M	2.666E+00	6.197E+01	7.607E+01
A	2.666E+00	5.269E+00	6.789E+00
S	1.429E+00	1.437E+00	1.400E+00
Z	1.340E+00	1.497E+00	1.782E+00
GAME	8.124E+01	9.142E+01	1.094E+01
U	1.131E+01	2.044E+00	2.418E+00

SERIES ----- MILE FRACCTIONS -----

SERIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.414E+00	2.381E+04	1.407E+04
ME	1.477E+01	1.178E+01	1.119E+01
ME+	1.012E+02	4.034E+01	4.779E+01
ME++	1.277E+04	3.444E+00	2.044E+04
M	4.277E+01	8.219E+01	8.798E+01
M+	4.618E+00	3.381E+05	1.407E+04
M2	3.244E+01	6.442E+02	7.864E+02

P1 = 1.00E+02 N/SQ-M, US1 = 1.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.059E+02	7.814E+02	1.108E+03
T	1.022E+01	1.207E+01	1.354E+01
DMN	9.093E+00	4.884E+01	8.717E+01
M	1.892E+01	3.274E+01	2.874E+01
A	7.048E+00	7.719E+00	4.014E+00
S	1.246E+01	1.277E+00	1.240E+00
Z	1.130E+01	1.307E+00	1.200E+00
GAME	8.018E+01	4.200E+01	4.200E+01
U	1.046E+00	1.046E+00	1.046E+00

SERIES ----- MILE FRACCTIONS -----

SERIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.939E+01	1.177E+04	4.644E+04
ME	1.200E+01	1.200E+01	1.200E+01
ME+	4.200E+02	4.200E+02	4.200E+02
ME++	4.200E+01	4.200E+01	4.200E+01
M	4.200E+01	4.200E+01	4.200E+01
M+	4.200E+01	4.200E+01	4.200E+01
M2	4.200E+01	4.200E+01	4.200E+01

P1 = 1.00E+02 N/SQ-M, US1 = 1.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.234E+02	1.464E+03	1.464E+03
T	1.074E+01	1.404E+01	1.404E+01
DMN	9.074E+00	1.404E+01	1.404E+01
M	2.200E+01	4.074E+01	4.074E+01
A	1.800E+00	4.074E+01	4.074E+01
S	1.800E+00	1.274E+01	1.274E+01
Z	1.170E+01	1.200E+01	1.200E+01
GAME	8.074E+01	8.074E+01	8.074E+01
U	1.464E+01	1.464E+01	1.464E+01

SERIES ----- MILE FRACCTIONS -----

SERIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.800E+01	4.474E+04	1.801E+04
ME	1.400E+01	1.400E+01	1.400E+01
ME+	1.400E+01	1.400E+01	1.400E+01
ME++	1.400E+01	1.400E+01	1.400E+01
M	1.400E+01	1.400E+01	1.400E+01
M+	1.400E+01	1.400E+01	1.400E+01
M2	1.400E+01	1.400E+01	1.400E+01

Table II. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/50-M, US1 = 1.00E+04 M/SEC				P1 = 1.00E+02 N/50-M, US1 = 1.90E+04 M/SEC			
MOVING SMOCK				MOVING SMOCK			
STANDING SMOCK				STANDING SMOCK			
REFLECTED SMOCK				REFLECTED SMOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
P	2.7912E+02	2.785E+03	3.5688E+03	P	3.2418E+02	3.2272E+03	5.4304E+03
T	1.2686E+01	2.0957E+01	3.1854E+01	T	1.4450E+01	2.4441E+01	4.6203E+01
RM	1.2657E+01	6.3586E+01	6.2092E+01	RM	1.3387E+01	4.8643E+01	6.1949E+01
M	3.91E+0E+01	7.0428E+01	8.8390E+01	M	2.48E+0E+01	9.7692E+01	1.2674E+02
A	3.8498E+00	6.1879E+00	7.8010E+00	A	4.5600E+00	8.0488E+00	8.8494E+00
S	1.4702E+00	1.5875E+00	1.6524E+00	S	1.4088E+00	1.6984E+00	1.7544E+00
Z	1.4269E+00	1.7699E+00	1.8028E+00	Z	1.521E+00	1.8199E+00	1.8973E+00
GAME	8.1834E-01	1.0323E+00	1.0E+00E+00	GAME	8.5845E-01	9.7711E-01	8.9739E-01
U	1.2109E+01	2.4120E+00	3.0991E+00	U	1.4444E+01	3.9701E+00	3.9811E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
F-	1.3801E-08	3.2277E-04	3.2942E-03	F-	2.5491E-07	1.1401E-02	5.1805E-02
ME	1.4015E-01	1.1300E-01	1.1088E-01	ME	1.2106E-01	1.0999E-01	1.0540E-01
ME+	1.4848E-22	1.1904E-12	1.7286E-08	ME+	1.5900E-19	2.3122E-07	1.7094E-04
ME++	2.2709E-82	4.2397E-50	6.2615E-32	ME++	1.9094E-71	2.1930E-27	9.8161E-21
M	5.9841E-01	8.4987E-01	8.8134E-01	M	7.9939E-01	8.6691E-01	7.9137E-01
M+	1.3851E-08	3.3277E-06	3.2961E-03	M+	2.5491E-07	1.1401E-02	5.1805E-02
M2	2.6147E-01	1.7064E-02	1.1934E-03	M2	8.947E-02	4.8681E-04	2.1733E-04

P1 = 1.00E+02 M/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5855E+01	3.4824E+03	5.8721E+03
T	1.5877E+01	4.0299E+01	4.9044E+01
PMO	1.2138E+01	4.6848E+01	4.1482E+01
M	6.0543E+01	1.0783E+02	1.3954E+02
A	4.9674E+00	8.3074E+00	9.1867E+00
S	1.6508E+00	1.7292E+00	1.7894E+00
Z	1.7243E+00	1.8444E+00	1.9402E+00
GAME	9.2942E-01	9.2878E-01	8.8450E-01
U	1.5183E+01	4.2547E+00	4.1044E+00

SPECIES	MOLE FRACTIONS
F-	1.0329E-04
ME	1.1499E-01
MF+	2.9448E-18
M	1.9688E-24
M+	8.4713E-01
M2	1.0329E-04
	4.3880E-02
	2.9781E-04
	7.2437E-02
	1.0305E-01
	3.2522E-05
	1.5740E-19
	7.5191E-01
	7.2404E-02
	1.6445E-04

P1 = 1.00E+02 M/50-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9298E+02	3.4209E+03	5.9946E+03
T	1.7947E+01	4.3301E+01	5.1335E+01
PMO	1.2306E+01	4.4235E+01	7.8849E+01
M	6.1702E+01	1.1920E+02	1.5205E+02
A	4.7106E+00	8.5601E+00	9.4707E+00
S	1.4945E+00	1.7615E+00	1.8104E+00
Z	1.7773E+00	1.8794E+00	1.9833E+00
GAME	1.0312E+00	9.0228E-01	8.4010E-01
U	1.5853E+01	4.4092E+00	4.1926E+00

SPECIES	MOLE FRACTIONS
F-	8.4480E-04
ME	1.1253E-01
MF+	1.2078E-14
M	3.0598E-22
M+	8.7449E-01
M2	9.4480E-04
	1.2765E-02
	2.0233E-04
	4.0473E-02
	1.0663E-01
	5.4474E-04
	1.7111E-22
	7.1231E-01
	9.2381E-02
	1.2549E-04

P1 = 1.00E+02 M/50-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1920E+02	2.6475E+03	4.2283E+03
T	1.3233E+01	2.4053E+01	3.8209E+01
PMO	1.3040E+01	5.6829E+01	6.0607E+01
M	4.4089E+01	7.9095E+01	1.0135E+02
A	4.0496E+00	7.2192E+00	8.1978E+00
S	1.5187E+00	1.6304E+00	1.6907E+00
Z	1.4997E+00	1.7947E+00	1.8259E+00
GAME	8.2631E-01	1.1146E+00	9.6228E-01
U	1.2890E+01	2.9444E+00	3.5426E+00

SPECIES	MOLE FRACTIONS
F-	3.3941E-08
ME	1.1144E-01
MF+	1.2782E-21
M	1.1444E-09
M+	8.8420E-01
M2	4.7464E-04
	3.4259E-07
	4.7445E-04
	1.0935E-01
	5.1448E-07
	4.4591E-26
	8.6041E-01
	1.4880E-02
	4.9084E-04

P1 = 1.00E+02 M/50-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9044E+02	2.9395E+03	4.9547E+03
T	1.3844E+01	3.1628E+01	4.2702E+01
PMO	1.3350E+01	5.1911E+01	4.1199E+01
M	4.9318E+01	8.8109E+01	1.1402E+02
A	4.2788E+00	7.7428E+00	8.5274E+00
S	1.5631E+00	1.6445E+00	1.7234E+00
Z	1.5748E+00	1.8749E+00	1.8788E+00
GAME	8.2818E-01	1.0760E+00	9.1837E-01
U	1.2409E+01	3.4537E+00	3.8060E+00

SPECIES	MOLE FRACTIONS
F-	8.7409E-08
ME	1.2494E-01
MF+	1.2679E-20
M	4.0938E-32
M+	7.2002E-01
M2	9.7609E-08
	1.4493E-01
	1.0283E-03
	3.2849E-07
	1.1087E-01
	1.1413E-08
	5.8253E-03
	8.2849E-01
	3.1740E-02
	3.8767E-04

Table II. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/50-M, US1 = 2.20E+04 M/SEC				P1 = 1.00E+02 N/50-M, US1 = 2.50E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RMN	M	P	T	RMN	M
4.263E+02	9.411E+01	4.460E+01	4.030E+01	4.376E+02	3.705E+03	5.143E+01	5.783E+03
7.147E+01	4.460E+01	4.030E+01	1.286E+01	3.322E+01	3.536E+01	1.627E+02	4.578E+01
1.094E+01	7.286E+01	1.792E+01	1.792E+01	8.879E+00	1.627E+02	9.946E+01	2.027E+02
7.286E+01	1.792E+01	1.792E+01	1.792E+01	9.354E+01	9.946E+01	1.649E+01	1.649E+01
4.421E+01	1.792E+01	1.792E+01	1.792E+01	7.583E+00	1.889E+00	1.889E+00	1.889E+00
1.737E+00	1.792E+01	1.792E+01	1.792E+01	1.823E+00	2.037E+00	2.037E+00	2.037E+00
1.792E+00	1.792E+01	1.792E+01	1.792E+01	1.823E+00	2.037E+00	2.037E+00	2.037E+00
1.792E+00	1.792E+01	1.792E+01	1.792E+01	9.497E-01	8.669E-01	8.669E-01	8.669E-01
1.792E+00	1.792E+01	1.792E+01	1.792E+01	1.823E+01	4.574E+00	4.574E+00	4.574E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
F-	1.244E-04	5.877E-02	1.135E-01	F-	1.241E-02	1.169E-01	1.749E-01
HF	1.114E-01	1.046E-01	9.839E-02	HF	1.097E-01	9.800E-02	9.132E-02
MF	8.414E-13	1.720E-01	1.039E-04	MF	9.037E-08	8.360E-05	3.540E-04
MF+	1.729E-47	4.300E-21	9.755E-18	MF+	1.224E-29	3.232E-18	7.631E-16
M	8.941E-01	7.790E-01	6.743E-01	M	9.652E-01	6.667E-01	5.580E-01
M+	1.244E-04	5.877E-02	1.135E-01	M+	1.241E-02	1.169E-01	1.749E-01
M2	2.378E-03	1.441E-04	9.121E-05	M2	1.342E-04	6.781E-05	4.718E-04

PI = 1.00E+02 N/50-M, US1= 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8064E+02	3.9044E+03	4.1611E+03
T	5.4897E+01	5.3380E+01	5.9818E+01
OHM	8.7890E+00	3.5778E+01	4.4988E+01
M	1.0107E+02	1.7589E+02	2.1829E+02
A	7.7000E+00	9.8363E+00	1.0015E+01
S	1.9478E+00	1.9183E+00	1.9824E+00
Z	1.8424E+00	2.0869E+00	2.2397E+00
GAME	9.5935E-01	8.6853E-01	8.7297E-01
U	1.8934E+01	4.6544E+00	4.4691E+00

SPECIES	MOLE FRACTIONS
F-	2.3139E-02
HF	1.0877E-01
HF+	3.9261E-07
H+	2.7635E-27
H	4.4508E-01
H+	6.2919E-01
H2	2.3138E-02
H2	9.0835E-05

PI = 1.00E+02 N/50-M, US1= 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0774E+02	3.5147E+03	5.5444E+03
T	2.0045E+01	4.9490E+01	5.4139E+01
OHM	9.1849E+00	2.6473E+01	4.5057E+01
M	8.6266E+00	1.5042E+02	1.8848E+02
A	7.4266E+00	9.2746E+00	1.0204E+01
S	1.7977E+00	1.8491E+00	1.9204E+00
Z	1.8088E+00	1.9913E+00	2.1772E+00
GAME	1.0319E+00	4.7266E-01	4.7193E-01
U	1.7575E+01	4.5233E+00	4.3113E+00

SPECIES	MOLE FRACTIONS
F-	4.9539E-02
HF	1.0449E-01
HF+	7.7599E-09
H+	5.4116E-29
H	8.7565E-01
H+	8.8729E-01
H2	2.4374E-02

PI = 1.00E+02 N/50-M, US1= 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8064E+02	3.9044E+03	4.1611E+03
T	5.4897E+01	5.3380E+01	5.9818E+01
OHM	8.7890E+00	3.5778E+01	4.4988E+01
M	1.0107E+02	1.7589E+02	2.1829E+02
A	7.7000E+00	9.8363E+00	1.0015E+01
S	1.9478E+00	1.9183E+00	1.9824E+00
Z	1.8424E+00	2.0869E+00	2.2397E+00
GAME	9.5935E-01	8.6853E-01	8.7297E-01
U	1.8934E+01	4.6544E+00	4.4691E+00

SPECIES	MOLE FRACTIONS
F-	2.3139E-02
HF	1.0877E-01
HF+	3.9261E-07
H+	2.7635E-27
H	4.4508E-01
H+	6.2919E-01
H2	2.3138E-02
H2	9.0835E-05

PI = 1.00E+02 N/50-M, US1= 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2433E+02	4.3323E+03	4.4491E+03
T	3.2000E+01	8.5338E+01	6.1814E+01
OHM	1.1811E+00	3.4433E+01	4.6742E+01
M	1.0107E+02	1.8088E+02	2.7478E+02
A	7.7000E+00	1.0141E+01	1.1154E+01
S	1.9478E+00	1.9466E+00	2.0128E+00
Z	1.8424E+00	2.1394E+00	2.3013E+00
GAME	9.5935E-01	8.6853E-01	8.7444E-01
U	1.9478E+01	4.7542E+00	4.5484E+00

SPECIES	MOLE FRACTIONS
F-	3.4014E-02
HF	1.2713E-01
HF+	1.7701E-08
H+	3.4134E-28
H	8.2079E-01
H+	9.8919E-01
H2	3.6014E-02
H2	4.7533E-05

Table II. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SQ-M, US1 = 2.80E+04 N/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 2.20E+04 N/SEC			
MOVING SHOCK				MOVING SHOCK			
P	6.7439E+02	4.7410E+02	7.2186E+03	P	8.8715E+02	4.7332E+02	1.0008E+04
T	5.9949E+01	5.7293E+01	6.3871E+01	T	6.5989E+01	4.5120E+01	7.2644E+01
PHO	8.9072E+00	3.7702E+01	4.7773E+01	PHO	9.5000E+00	4.2644E+01	5.2600E+01
M	1.1710E+02	2.0459E+02	2.5221E+02	M	1.5000E+02	2.0547E+02	3.0012E+02
A	8.1276E+00	1.0456E+01	1.1510E+01	A	8.9777E+00	1.1720E+01	1.3008E+01
S	1.8945E+00	1.9748E+00	2.0423E+00	S	1.9877E+00	2.0885E+00	2.1670E+00
Z	1.8945E+00	2.1948E+00	2.3657E+00	Z	2.0312E+00	2.3365E+00	2.4411E+00
GAME	8.7249E-01	8.6938E-01	8.7678E-01	GAME	8.5324E-01	9.5734E-01	8.8701E-01
U	2.0424E+01	4.8278E+00	4.6779E+00	U	2.3578E+01	5.2493E+00	5.1041E+00
SPECIES				SPECIES			
MALE FRACTIONS				MALE FRACTIONS			
F-	5.0296E-02	1.7995E-01	2.3916E-01	F-	1.1395E-01	2.6124E-01	3.1900E-01
HE	1.0553E-01	9.0782E-02	8.3421E-02	HE	9.8471E-02	8.0000E-02	7.5395E-02
HE+	2.9974E-04	3.4009E-04	1.1197E-03	HE+	2.0011E-05	1.4803E-03	4.2878E-03
M	6.1001E-24	5.7284E-16	5.2773E-14	M	2.0092E-20	1.3780E-13	8.1915E-12
M+	7.9383E-01	5.4527E-01	4.2813E-01	M+	6.7387E-01	3.0490E-01	2.9002E-01
M2	5.0293E-02	1.7991E-01	2.3804E-01	M2	1.1382E-01	2.6097E-01	3.1471E-01
	5.2231E-05	3.8858E-05	2.6794E-05		2.4527E-05	1.8000E-05	1.0632E-05

P1 = 1.00E+02 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.2471E+02	5.1881E+03	7.865E+03
T	4.1644E+01	5.9245E+01	6.4003E+01
RMO	9.0352E+00	3.8875E+01	4.8919E+01
M	1.2559E+02	2.1997E+02	2.7052E+02
A	8.3248E+00	1.0780E+01	1.1884E+01
S	1.9174E+00	2.0031E+00	2.0744E+00
Z	1.9261E+00	2.2526E+00	2.4333E+00
GAME	8.6401E-01	8.7082E-01	8.7930E-01
U	2.1195E+01	4.9287E+00	4.7958E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.4498E-02	2.0094E-01	2.6028E-01
HE	1.0383E-01	8.8279E-02	8.0590E-02
HE+	6.1605E-06	4.081E-04	1.6032E-03
M	7.6513E-01	2.5571E-1E	2.0453E-1E
M+	6.5482E-02	4.0980E-01	3.9887E-01
M2	4.3464E-05	2.0044E-01	2.5688E-01

P1 = 1.00E+02 N/SQ-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7701E+02	4.6714E+03	8.777E+03
T	4.3192E+01	4.1194E+01	4.8174E+01
RMO	9.1872E+00	4.0783E+01	4.0128E+01
M	1.3448E+02	2.599E+02	2.8667E+02
A	8.5242E+00	1.1112E+01	1.2267E+01
S	1.9410E+00	2.0314E+00	2.1053E+00
Z	1.9592E+00	2.3122E+00	2.4023E+00
GAME	8.5867E-01	8.7270E-01	8.8205E-01
U	2.1949E+01	4.0348E+00	4.9280E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	8.1292E-02	2.2144E-01	2.8047E-01
HE	1.0707E-01	8.777E-02	7.7449E-02
HE+	1.1307E-05	7.4104E-04	2.2983E-03
M	7.8284E-02	1.0400E-14	7.3402E-14
M+	7.531E-01	4.7113E-01	4.6097E-01
M2	8.128E-02	2.2080E-01	2.7841E-01
M2	3.5288E-04	2.7083E-04	1.6772E-04

P1 = 1.00E+02 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0966E+03	7.9188E+03	1.1808E+04
T	4.8713E+01	4.9130E+01	7.7488E+01
RMO	9.8214E+00	4.4424E+01	4.472E+01
M	1.721E+02	3.0044E+02	3.7277E+02
A	9.3379E+00	1.7917E+01	1.7993E+01
S	2.7347E+00	2.1440E+00	2.2297E+00
Z	2.1007E+00	2.7469E+00	2.788E+00
GAME	8.8147E-01	8.8272E-01	8.8270E-01
U	7.0066E+01	5.627E+00	7.4449E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.4482E-01	7.587E-01	3.5449E-01
HE	9.4732E-02	7.518E-02	6.7935E-02
HE+	4.7467E-05	2.7871E-03	7.7894E-03
M	4.7359E-19	1.4617E-12	8.090E-11
M+	4.1141E-01	3.2781E-01	2.2709E-01
M2	1.467E-01	2.9471E-01	2.617E-01
M2	1.9009E-04	1.2277E-04	4.233E-04

P1 = 1.00E+02 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1311E+03	9.1948E+03	1.249E+04
T	4.920E+01	7.7297E+01	8.241E+01
RMO	1.0127E+01	4.4493E+01	4.4674E+01
M	1.9367E+02	3.478E+02	4.031E+02
A	9.264E+00	1.7294E+01	1.4770E+01
S	2.782E+00	2.744E+00	2.2929E+00
Z	2.197E+00	2.4985E+00	2.9242E+00
GAME	8.8212E-01	8.822E-01	8.9968E-01
U	7.5460E+01	5.8107E+00	5.8233E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.7654E-01	3.2297E-01	3.849E-01
HE	9.102E-02	6.9122E-02	6.6797E-02
HE+	1.3374E-04	4.9940E-03	1.2370E-03
M	7.0974E-14	1.2168E-11	7.0943E-10
M+	4.687E-01	2.649E-01	1.721E-01
M2	1.7941E-01	3.2797E-01	2.7318E-01
M2	1.4549E-04	7.772E-04	2.6414E-04

Table 11. - Continued

$$p_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SQ-M, US1 = 3.80E+04 M/SEC				P1 = 1.00E+02 N/SQ-M, US1 = 4.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2637E+03	1.0460E+04	1.5734E+04	P	1.7040E+03	1.0030E+04	1.2795E+04
T	5.3224E+01	7.7663E+01	8.8240E+01	T	6.0043E+01	9.2943E+01	1.1422E+02
BPM	1.0600E+01	4.8017E+01	5.7872E+01	BPM	1.1017E+01	4.0240E+01	5.7647E+01
M	2.1544E+02	3.8414E+02	4.6999E+02	M	2.8039E+02	5.1742E+02	4.4244E+02
A	1.0184E+01	1.4020E+01	1.5710E+01	A	1.1440E+01	1.4674E+01	1.9994E+01
S	2.1137E+00	2.2623E+00	2.3662E+00	S	2.2812E+00	2.4399E+00	2.5460E+00
W	2.2830E+00	2.8920E+00	3.0776E+00	W	2.2715E+00	2.4399E+00	2.4408E+00
Z	8.5369E-01	8.9369E-01	9.0780E-01	Z	8.4407E-01	9.1939E-01	1.0113E+00
GAME	2.8222E+01	6.1178E+00	6.1829E+00	GAME	2.2872E+01	7.2113E+00	7.7707E+00
U				U			
SPECIFS ----- MOLE FRACTIONS				SPECIFS ----- MOLE FRACTIONS			
F-	2.1178E-01	3.6441E-01	4.1913E-01	F-	3.0109E-01	4.4020E-01	4.7989E-01
ME	8.7760E-02	6.2049E-02	4.3464E-02	ME	7.6514E-02	3.2273E-02	8.4778E-02
MF+	2.4420E-04	8.9524E-03	2.1322E-02	MF+	1.1735E-02	2.9927E-02	4.5309E-02
MF++	5.4878E-17	1.0447E-10	5.6122E-09	MF++	1.9802E-14	8.6977E-08	3.2474E-04
H	4.8047E-01	2.0911E-01	1.2650E-01	H	3.2149E-02	8.7333E-02	3.2174E-02
H+	2.1133E-01	3.9584E-01	3.9380E-01	H+	2.9984E-01	4.1027E-01	4.2098E-01
H++	4.4032E-04	4.4032E-04	1.7885E-04	H++	7.1794E-07	7.1794E-07	8.8755E-08

P1 = 1.00E+02 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.894E+02	1.48E+04	2.5E+04
T	4.244E+01	9.947E+01	1.318E+02
PHO	1.114E+01	4.99E+01	5.684E+01
M	1.179E+02	5.45E+02	7.127E+02
A	1.20E+01	1.767E+01	2.2E+01
S	2.332E+00	2.492E+00	2.609E+00
Z	2.478E+00	2.529E+00	3.402E+00
GAME	8.484E-01	8.430E-01	1.088E+00
U	3.440E+01	7.479E+00	8.772E+00

SPECIES	MOLE FRACTIONS	
E-	3.2801E-01	4.594E-01
HF	7.280E-02	2.112E-02
HE+	1.877E-02	3.893E-02
HE++	1.124E-13	3.700E-07
H	2.317E-01	6.037E-02
H+	3.24E-01	4.204E-01
H2	2.7E-06	3.162E-07

P1 = 1.00E+02 N/SQ-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.031E+03	1.801E+04	2.8E31E+03
T	4.60E+01	1.075E+02	1.0E+06
PHO	1.123E+01	4.881E+01	2.141E+01
M	3.43E+02	4.153E+02	7.910E+02
A	1.257E+01	1.905E+01	2.480E+01
S	2.383E+00	2.447E+00	2.483E+00
Z	2.79E+00	3.429E+00	3.578E+00
GAME	8.737E-01	8.641E-01	1.104E+00
U	1.602E+01	8.244E+00	1.00E+01

SPECIES	MOLE FRACTIONS	
F-	3.540E-01	4.750E-01
HF	4.881E-02	1.173E-02
HE+	2.973E-02	4.449E-02
HE++	4.209E-13	1.083E-04
H	2.243E-01	3.813E-02
H+	1.904E-01	4.284E-01
H2	1.798E-06	1.1E-07

P1 = 1.00E+02 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.403E+03	1.200E+04	1.792E+04
T	5.482E+01	8.23E+01	9.485E+01
PHO	1.064E+01	4.91E+01	5.871E+01
M	2.388E+02	4.247E+02	5.229E+02
A	1.063E+01	1.481E+01	1.677E+01
S	2.180E+00	2.20E+00	2.419E+00
Z	2.374E+00	2.960E+00	3.214E+00
GAME	8.484E-01	8.922E-01	9.228E-01
U	2.977E+01	6.451E+00	6.890E+00

SPECIES	MOLE FRACTIONS	
E-	2.42E+01	3.927E-01
HF	8.374E-02	5.357E-02
HE+	4.223E-04	1.390E-02
HE++	4.963E-14	7.432E-10
H	4.219E-01	1.409E-01
H+	2.471E-01	3.788E-01
H2	7.971E-06	2.482E-04

P1 = 1.00E+02 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4E+03	1.242E+04	2.025E+04
T	4.77E+01	8.735E+01	1.02E+02
PHO	1.084E+01	4.994E+01	5.881E+01
M	2.433E+02	4.710E+02	5.798E+02
A	1.109E+01	1.564E+01	1.8120E+01
S	2.23E+00	2.378E+00	2.482E+00
Z	2.472E+00	3.92E+00	3.3470E+00
GAME	8.499E-01	9.040E-01	9.527E-01
U	3.129E+01	6.811E+00	7.986E+00

SPECIES	MOLE FRACTIONS	
F-	2.724E-01	4.179E-01
HF	8.012E-02	4.348E-02
HE+	7.045E-04	2.110E-02
HE++	2.291E-14	3.220E-02
H	2.748E-01	1.2061E-01
H+	2.717E-01	3.987E-01
H2	4.748E-04	1.4431E-06

Table II. - Continued

$$P_1 = 100 \text{ N/m}^2$$

$P_1 = 1.00E+02 \text{ N/50-M, US1= 5.60E+04 M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.20E+03	1.90E+04	3.160E+04
T	6.76E+01	1.183E+02	1.779E+02
RHO	1.128E+01	4.676E+01	4.97E+01
M	3.779E+02	6.627E+02	8.620E+02
A	1.310E+01	2.081E+01	2.572E+01
S	2.63E+00	2.598E+00	2.718E+00
Z	2.899E+00	3.50E+00	3.60E+00
GAME	8.789E-01	1.041E+00	1.031E+00
U	3.744E+01	9.040E+00	1.111E+01
$P_1 = 1.00E+02 \text{ N/50-M, US1= 5.60E+04 M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.764E+03	2.276E+04	3.997E+04
T	7.712E+01	1.647E+02	2.275E+02
RHO	1.122E+01	3.843E+01	4.704E+01
M	4.675E+02	8.244E+02	1.102E+03
A	1.483E+01	2.515E+01	2.909E+01
S	2.589E+00	2.732E+00	2.843E+00
Z	3.193E+00	3.546E+00	3.725E+00
GAME	8.930E-01	1.068E+00	9.947E-01
U	4.191E+01	1.224E+01	1.313E+01
$P_1 = 1.00E+02 \text{ N/50-M, US1= 5.60E+04 M/SEC}$			
SPECIES	MOLE FRACTIONS		
E-	4.364E-01	4.992E-01	5.584E-01
HE	4.467E-02	5.792E-04	5.496E-05
HE+	1.777E-02	5.267E-02	1.870E-02
HE++	5.242E-10	2.392E-03	3.494E-02
H	8.230E-02	3.313E-01	1.085E-03
H+	4.186E-01	4.410E-01	4.293E-01
H2	1.941E-07	4.759E-10	5.387E-11

P1 = 1.00E+02 N/SQ-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3853E+03	2.0594E+04	3.4614E+04
T	7.0020E+01	1.3252E+02	1.9547E+02
RMD	1.1294E+01	4.3737E+01	4.0349E+01
M	4.0333E+02	7.1779E+02	9.4565E+02
A	1.3444E+01	2.2777E+01	2.4424E+01
S	2.4877E+00	2.8487E+00	2.7618E+00
Z	2.9944E+00	3.9532E+00	3.4418E+00
GAPE	8.8474E-01	1.0998E+00	9.8173E-01
U	3.8942E+01	1.0051E+01	1.1077E+01

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	3.0000E-01
ME	5.9295E-02
ME+	7.5266E-03
ME++	1.0007E-11
M	1.4299E-01
M+	3.9134E-01
M2	6.6006E-07

P1 = 1.00E+02 N/SQ-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5735E+03	2.1708E+04	2.7181E+04
T	7.3443E+01	1.4872E+02	2.1109E+02
RMD	1.1284E+01	4.0798E+01	4.7814E+01
M	4.2490E+02	7.7039E+02	1.0223E+03
A	1.4232E+01	2.4228E+01	2.7732E+01
S	2.4377E+00	2.4930E+00	2.4020E+00
Z	2.0940E+00	3.5774E+00	3.4837E+00
GAPE	8.8474E-01	1.1123E+00	6.7487E-01
U	4.0440E+01	1.1180E+01	1.2479E+01

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	4.1441E-01
ME	4.0407E-01
ME+	1.0342E-02
ME++	5.4344E-07
M	5.0204E-04
M+	5.7302E-03
M2	4.4179E-01
M2	1.4238E-00

P1 = 1.00E+02 N/SQ-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9635E+03	2.3924E+04	4.2653E+04
T	8.0908E+01	1.7951E+02	2.4711E+02
RMD	1.1149E+01	3.6850E+01	4.5914E+01
M	5.0145E+02	9.8115E+02	1.1872E+03
A	1.5404E+01	2.5500E+01	3.1196E+01
S	2.6385E+00	2.7710E+00	2.8824E+00
Z	3.2857E+00	3.6169E+00	3.7594E+00
GAPE	9.0184E-01	1.0078E+00	1.0476E+00
U	4.3390E+01	1.3130E+01	1.3995E+01

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	4.5217E-01
ME	3.5489E-02
ME+	2.5391E-02
ME++	2.9242E-09
M	6.0170E-02
M+	4.2879E-01
M2	5.7057E-01

P1 = 1.00E+02 N/SQ-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1376E+03	2.5102E+04	4.5407E+04
T	8.5300E+01	1.9251E+02	2.7211E+02
RMD	1.1010E+01	3.5747E+01	4.4131E+01
M	5.3645E+02	9.4037E+02	1.2795E+03
A	1.6250E+01	2.6197E+01	3.3714E+01
S	2.6986E+00	2.9096E+00	2.9214E+00
Z	3.3727E+00	3.6476E+00	3.7811E+00
GAPE	9.1755E-01	9.7436E-01	1.1047E+00
U	4.4822E+01	1.3804E+01	1.4908E+01

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	4.4650E-01
ME	2.5210E-02
ME+	3.4099E-02
ME++	1.5512E-09
M	4.2182E-02
M+	4.317E-01
M2	4.4101E-09

Table II. - Cont., ued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SQ-M, US1= 6.20E+04 M/SEC				P1 = 1.00E+02 N/SQ-M, US1= 6.80E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.375E+03	2.6194E+04	4.7992E+04	P	4.0002E+03	2.6844E+04	5.0984E+04
T	9.0602E+01	2.0443E+02	3.0321E+02	T	1.1855E+02	2.4324E+02	4.0267E+02
RHC	1.079E+01	3.4783E+01	4.1742E+01	RHC	9.4268E+00	2.9285E+01	3.3332E+01
H	5.7256E+02	1.0015E+03	1.378E+03	H	6.8668E+02	1.1833E+03	1.6777E+03
A	1.7223E+01	2.7007E+01	3.6224E+01	A	2.1794E+01	3.1161E+01	4.2154E+01
S	2.735E+00	2.8450E+00	2.9611E+00	S	2.9671E+00	2.9556E+00	3.0703E+00
Z	3.4503E+03	3.6823E+00	3.7918E+00	Z	3.5796E+00	3.7885E+00	3.7986E+00
GA ME	9.4956E-01	9.6999E-01	1.1413E+00	GA ME	1.1193E+03	1.3593E+00	1.1618E+00
U	4.6226E+01	1.4338E+01	1.6150E+01	U	4.9948E+01	1.6091E+01	1.9688E+01
E-	4.7870E-01	5.1119E-01	5.2529E-01	E-	4.9714E-01	5.2235E-01	5.2614E-01
HF	1.5477E-02	1.5291E-04	4.4329E-06	HE	1.1844E-03	2.2362E-05	2.1163E-07
HE+	4.2490E-02	3.0441E-02	1.8056E-03	HE+	5.4646E-02	7.7865E-03	2.9437E-04
HE++	9.7232E-09	2.3719E-02	5.0936E-02	HE++	4.2571E-05	4.5263E-02	5.2397E-02
H	2.7926E-02	1.2079E-03	3.5890E-04	H	4.5707E-03	5.3310E-04	1.2255E-04
H+	4.3581E-01	4.333E-01	4.2161E-01	H+	4.4241E-01	4.2404E-01	4.2109E-01
H2	1.7632E-09	5.1237E-11	4.8629E-12	H2	2.9807E-10	7.9702E-12	4.3722E-13

P1 = 1.00E+02 N/SEC US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2090E+03	2.6486E+04	5.0953E+04
T	1.3178E+02	2.5953E+02	4.3603E+02
RHC	8.8964E+00	2.6980E+01	3.0760E+01
M	7.2660E+02	1.2427E+03	1.7765E+03
A	2.3076E+01	3.2889E+01	4.3882E+01
S	2.9044E+00	2.9009E+00	3.1034E+00
Z	3.5908E+00	3.7827E+00	3.7990E+00
GAPE	1.1255E+01	1.1018E+00	1.1625E+00
U	5.1055E+01	1.6827E+01	2.0765E+01

SPECIES	MOLE FRACTIONS	
E-	4.9872E-01	5.2415E-01
HE	4.9184E-04	9.5585E-06
HE+	5.4893E-02	4.1669E-03
HE++	3.1292E-04	4.8696E-02
H	2.3839E-03	3.9079E-04
H+	4.4320E-01	4.2259E-01
H2	6.8645E-11	3.8737E-12

P1 = 1.00E+02 N/SEC US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5851E+03	2.6896E+04	4.9895E+04
T	9.7512E+01	2.1635E+02	3.3598E+02
RHC	1.0464E+01	3.3468E+01	3.9122E+01
M	6.5968E+02	1.0630E+03	1.4793E+03
A	1.8527E+01	2.9127E+01	3.8383E+01
S	2.7830E+00	2.9819E+00	2.9984E+00
Z	3.5136E+00	3.7167E+00	3.7959E+00
GAPE	1.0019E+00	9.9394E-01	1.1551E+00
U	4.7561E+01	1.4872E+01	1.7378E+01

SPECIES	MOLE FRACTIONS	
E-	4.8770E-01	5.1570E-01
HE	7.7710E-03	9.0206E-05
HE+	4.9150E-02	2.1304E-02
HE++	5.8346E-07	3.2417E-02
H	1.6823E-02	9.3529E-04
H+	4.3855E-01	4.2956E-01
H2	5.6438E-09	2.9076E-11

P1 = 1.00E+02 N/SEC US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7934E+03	2.7104E+04	5.0812E+04
T	1.0681E+02	2.2994E+02	3.6961E+02
RHC	9.9814E+03	3.1604E+01	3.6199E+01
M	6.4774E+02	1.1240E+03	1.5791E+03
A	2.0171E+01	2.9511E+01	4.0352E+01
S	2.8267E+03	2.9184E+00	3.0253E+00
Z	3.5567E+00	3.7461E+00	3.7977E+00
GAPE	1.0766E+00	1.0155E+00	1.1606E+00
U	4.6801E+01	1.5433E+01	1.9563E+01

SPECIES	MOLE FRACTIONS	
E-	4.9352E-01	5.1050E-01
HE	3.1451E-03	4.7949E-05
HE+	5.3077E-02	1.3579E-02
HE++	4.9501E-06	3.9762E-02
H	9.0178E-03	7.1641E-04
H+	4.4093E-01	4.2540E-01
H2	1.3835E-09	1.5811E-11

Table II. - Continued

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SC-M, US1 = 4.00E+03 M/SEC					P1 = 2.00E+02 N/SC-M, US1 = 7.00E+03 M/SEC					
		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	
		P	P	P			P	P	P	
		T	T	T			T	T	T	
		RND	RND	RND			RND	RND	RND	
		M	M	M			M	M	M	
		A	A	A			A	A	A	
		S	S	S			S	S	S	
		Z	Z	Z			Z	Z	Z	
		GAME	GAME	GAME			GAME	GAME	GAME	
		U	U	U			U	U	U	
		SPECIES			SPECIES			SPECIES		
		MOLE FRACTIONS			MOLE FRACTIONS			MOLE FRACTIONS		
		E-	4.4172E-51	2.4781E-38	1.4013E-22	E-	2.3691E-16	1.8562E-12	4.4004E-11	
		HE	2.0000E-01	2.0000E-01	1.9998E-01	HE	1.9917E-01	1.9324E-01	1.8636E-01	
		HE+	1.5934E-64	3.2028E-57	6.1424E-48	HE+	5.3780E-58	1.6874E-30	2.3108E-27	
		HE++	C.	O.	O.	HE++	O.	O.	O.	
		M	8.5117E-10	2.7930E-07	2.0323E-04	M	8.3116E-03	6.7694E-02	1.4636E-01	
		H+	7.2402E-20	7.2402E-20	7.2535E-20	H+	2.3694E-16	1.9562E-12	4.4004E-11	
		H2	9.3000E-01	9.3000E-01	7.9582E-01	H2	7.9522E-01	7.9916E-01	6.7729E-01	

P1 = 2.00E+02 N/SEC-P, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5611E+01	5.2134E+01	1.1454E+02
T	4.4084E+00	5.8978E+00	7.8427E+00
RND	4.4559E+00	8.8359E+00	1.4567E+01
M	4.5641E+00	6.4233E+00	8.8560E+00
A	2.0732E+00	2.3693E+00	2.6139E+00
S	1.0090E+00	1.0931E+00	1.1125E+00
Z	1.0002E+00	1.0002E+00	1.0002E+00
GAME	9.7541E-01	9.5157E-01	8.9667E-01
U	3.1553E+00	1.6250E+00	1.4260E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.0201E-34	8.7250E-21	3.4677E-15
HE	2.0000E-01	1.9950E-01	1.9883E-01
HE+	2.0915E-55	6.8561E-47	3.5826E-36
HE++	0.	0.	0.
H	3.5964E-06	3.5572E-04	1.1744E-02
H+	7.2402E-20	8.1113E-20	3.4878E-15
H2	8.0000E-01	7.9964E-01	7.8543E-01

P1 = 2.00E+02 N/SEC-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8765E+01	5.3530E+01	1.7756E+02
T	5.8371E+00	7.9825E+00	9.3416E+00
RND	4.9271E+00	1.1450E+01	1.8438E+01
M	4.1765E+00	6.9735E+00	1.2109E+01
A	2.3565E+00	2.6338E+00	2.8268E+00
S	1.1165E+00	1.1232E+00	1.1472E+00
Z	1.0002E+00	1.0071E+00	1.0039E+00
GAME	9.5115E-01	8.7348E-01	8.2979E-01
U	3.9303E+00	1.0850E+00	1.4327E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.2462E-20	4.9731E-15	1.5009E-12
HE	1.5555E-01	1.5860E-01	1.5401E-01
HE+	6.8543E-47	5.9528E-36	1.4118E-30
HE++	0.	0.	0.
H	4.3424E-04	1.4040E-02	5.9924E-02
H+	5.5524E-20	4.9731E-15	1.5009E-12
H2	7.5911E-01	7.8735E-01	7.4607E-01

P1 = 2.00E+02 N/SEC-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2859E+01	2.4279E+02	3.8912E+02
T	8.4252E+00	1.0557E+01	1.1507E+01
RND	6.1527E+00	2.1250E+01	2.9908E+01
M	1.0345E+01	1.6511E+01	2.0566E+01
A	2.6803E+00	3.7491E+00	3.2542E+00
S	1.1743E+00	1.1562E+00	1.2259E+00
Z	1.0154E+00	1.0813E+00	1.1308E+00
GAME	8.3552E-01	8.1441E-01	8.1488E-01
U	5.5050E+00	1.5919E+00	1.4242E+00

SPECIES ----- MOLE FRACTIONS -----

E-	8.8077E-14	6.0344E-11	4.8579E-10
HE	1.5615E-01	1.8497E-01	1.7687E-01
HE+	1.0700E-34	4.8359E-27	2.5145E-25
HE++	0.	0.	4.1447E-89
H	3.8466E-02	1.5034E-01	2.3121E-01
H+	8.6077E-14	6.0344E-11	4.8579E-10
H2	7.6533E-01	6.6469E-01	5.5183E-01

P1 = 2.00E+02 N/SEC-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.9231E+01	3.7239E+02	5.5661E+02
T	9.2744E+00	1.1553E+01	1.4514E+01
RND	7.3314E+00	2.8143E+01	3.7893E+01
M	1.2903E+01	2.1284E+01	2.5545E+01
A	2.8124E+00	3.2928E+00	3.3059E+00
S	1.2039E+00	1.2372E+00	1.2711E+00
Z	1.0463E+00	1.1414E+00	1.2017E+00
GAME	8.1512E-01	8.1444E-01	8.1882E-01
U	6.3444E+00	1.5861E+00	1.4554E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.3736E-12	6.2796E-10	3.4434E-09
HE	1.5115E-01	1.7523E-01	1.6633E-01
HE+	1.0145E-30	8.0353E-25	4.5500E-23
HE++	0.	1.1207E-93	4.1574E-85
H	8.6432E-02	2.4773E-01	3.3585E-01
H+	2.3736E-12	6.2796E-10	3.4434E-09
H2	7.2341E-01	5.7703E-01	4.3791E-01

$$p_1 = 200 \text{ N/m}^2$$

P1 = 2.30E+02 N/S-M, US1= 1.30E+04 P/SFC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SP-CK
P	1.4685E+02	1.2419E+03	1.8064E+12
T	1.1644E+01	1.5023E+01	1.72C9E+01
RNU	1.0441E+01	5.5487E+01	6.6113E+01
M	4.6131E+01	4.6131E+01	5.4608E+01
A	3.3564E+00	4.3117E+00	4.8930E+00
S	1.3435E+00	1.4302E+00	1.4817E+00
Z	1.2243E+00	1.4787E+00	1.5881E+00
GAME	8.7921E-01	8.5708E-01	8.7644E-01
U	5.6583E+00	1.8179E+00	1.3115E+00

P1 = 2.00E+02 N/S-M, US1= 1.30E+04 P/SFC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SP-CK
P	1.4685E+02	1.2419E+03	1.8064E+12
T	1.1644E+01	1.5023E+01	1.72C9E+01
RNU	1.0441E+01	5.5487E+01	6.6113E+01
M	4.6131E+01	4.6131E+01	5.4608E+01
A	3.3564E+00	4.3117E+00	4.8930E+00
S	1.3435E+00	1.4302E+00	1.4817E+00
Z	1.2243E+00	1.4787E+00	1.5881E+00
GAME	8.7921E-01	8.5708E-01	8.7644E-01
U	5.6583E+00	1.8179E+00	1.3115E+00

P1 = 2.00E+02 N/S-M, US1= 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SP-CK
P	8.5582E+01	5.4166E+02	7.9639E+02
T	5.5600E+00	1.2572E+01	1.3524E+01
RNU	7.9469E+00	3.5532E+01	4.5824E+01
M	1.5762E+01	2.6400E+01	3.2028E+01
A	3.5331E+00	3.7876E+00	3.7876E+00
S	2.9459E+00	1.2016E+00	1.3157E+00
Z	1.2363E+00	1.2125E+00	1.2842E+00
GAME	8.0759E-01	8.1886E-01	8.2606E-01
U	7.1835E+00	1.5080E+00	1.5081E+00

P1 = 2.00E+02 N/S-M, US1= 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SP-CK
P	8.5582E+01	5.4166E+02	7.9639E+02
T	5.5600E+00	1.2572E+01	1.3524E+01
RNU	7.9469E+00	3.5532E+01	4.5824E+01
M	1.5762E+01	2.6400E+01	3.2028E+01
A	3.5331E+00	3.7876E+00	3.7876E+00
S	2.9459E+00	1.2016E+00	1.3157E+00
Z	1.2363E+00	1.2125E+00	1.2842E+00
GAME	8.0759E-01	8.1886E-01	8.2606E-01
U	7.1835E+00	1.5080E+00	1.5081E+00

P1 = 2.00E+02 N/S-M, US1= 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SP-CK
P	8.5582E+01	5.4166E+02	7.9639E+02
T	5.5600E+00	1.2572E+01	1.3524E+01
RNU	7.9469E+00	3.5532E+01	4.5824E+01
M	1.5762E+01	2.6400E+01	3.2028E+01
A	3.5331E+00	3.7876E+00	3.7876E+00
S	2.9459E+00	1.2016E+00	1.3157E+00
Z	1.2363E+00	1.2125E+00	1.2842E+00
GAME	8.0759E-01	8.1886E-01	8.2606E-01
U	7.1835E+00	1.5080E+00	1.5081E+00

P1 = 2.00E+02 N/S-M, US1= 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SP-CK
P	8.5582E+01	5.4166E+02	7.9639E+02
T	5.5600E+00	1.2572E+01	1.3524E+01
RNU	7.9469E+00	3.5532E+01	4.5824E+01
M	1.5762E+01	2.6400E+01	3.2028E+01
A	3.5331E+00	3.7876E+00	3.7876E+00
S	2.9459E+00	1.2016E+00	1.3157E+00
Z	1.2363E+00	1.2125E+00	1.2842E+00
GAME	8.0759E-01	8.1886E-01	8.2606E-01
U	7.1835E+00	1.5080E+00	1.5081E+00

P1 = 2.00E+02 N/S-M, US1= 1.00E+04 M/SEC			
	MOVING SHOCK		

PI = 2.00E+02 N/SEC-M, USI = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0482E+02	7.5655E+02	1.0786E+03
T	1.0562E+01	1.3531E+01	1.4580E+01
RMD	6.8370E+00	4.2870E+01	5.3720E+01
M	1.8513E+01	3.2583E+01	3.9825E+01
A	3.0564E+00	1.3033E+00	4.0803E+00
S	1.2796E+00	1.3290E+00	1.3713E+00
Z	1.1231E+00	1.2934E+00	1.3770E+00
GAME	8.0610E-01	8.2610E-01	8.3644E-01
U	8.0161E+00	1.5537E+00	1.5757E+00

SPECIES

WAVE FRACTIONS

E-	1.0943E-10	1.8635E-08	7.4655E-08
PE	1.7608E-01	1.5403E-01	1.5224E-01
ME+	4.3157E-27	2.4051E-21	7.2517E-20
MF+	0.	4.0499E-73	5.1413E-73
M	2.1921E-01	4.5367E-01	5.4761E-01
M+	1.0943E-10	1.8635E-08	7.4655E-08
M2	6.0271E-01	3.9170E-01	5.0719E-01

PI = 2.00E+02 N/SEC-M, USI = 1.23E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2553E+02	9.3857E+02	1.4151E+03
T	1.1115E+01	1.5237E+01	1.5758E+01
RMD	5.6747E+00	4.0581E+01	6.0706E+01
M	2.2166E+01	3.9071E+01	4.6311E+01
A	1.2627E+00	4.0944E+00	4.4551E+00
S	1.3670E+00	1.3749E+00	1.4225E+00
Z	1.1705E+00	1.3627E+00	1.4752E+00
GAME	8.0667E-01	8.3610E-01	8.5149E-01
U	8.0415E+00	1.7222E+00	1.6757E+00

SPECIES

WAVE FRACTIONS

E-	4.2356E-10	7.3647E-08	2.9618E-07
PE	1.7021E-01	1.4445E-01	1.3821E-01
ME+	5.6665E-20	6.4037E-20	1.5552E-18
MF+	0.	4.0510E-73	3.4731E-73
M	2.5192E+01	5.5453E+01	6.4754E+01
M+	7.2350E-10	7.3647E-08	2.9618E-07
M2	5.3727E-01	3.0192E-01	2.1685E-01

PI = 2.00E+02 N/SEC-M, USI = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7358E+02	1.5555E+03	2.2578E+03
T	1.2163E+01	1.6905E+01	1.9358E+01
RMD	1.1125E+01	5.5783E+01	6.8755E+01
M	3.0157E+01	5.3659E+01	6.3853E+01
A	3.5610E+00	4.8240E+00	5.5301E+00
S	1.3861E+00	1.4825E+00	1.5351E+00
Z	1.2823E+00	1.5789E+00	1.6944E+00
GAME	8.1276E-01	9.7126E-01	9.3128E-01
U	1.0469E+01	1.0986E+00	2.0153E+00

SPECIES

WAVE FRACTIONS

E-	3.7603E-09	1.0050E-06	7.5410E-06
PE	1.5591E-01	1.2660E-01	1.1750E-01
ME+	1.4311E-23	3.5747E-17	5.5194E-15
MF+	3.5692E-87	8.3435E-83	9.0420E-75
M	4.0597E-01	7.3321E-01	8.2102E-01
M+	3.7603E-09	1.0050E-06	7.5410E-06
M2	4.0319E-01	1.4011E-01	6.1070E-02

PI = 2.00E+02 N/SEC-M, USI = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2505E+02	1.9284E+03	2.7955E+03
T	1.2690E+01	1.8633E+01	2.3517E+01
RMD	1.1717E+01	6.1722E+01	6.5758E+01
M	3.4473E+01	5.1705E+01	7.4947E+01
A	3.7264E+00	5.3433E+00	6.7423E+00
S	1.4282E+00	1.5346E+00	1.5574E+00
Z	1.3422E+00	1.5728E+00	1.7764E+00
GAME	8.1747E-01	9.1383E-01	1.0708E-01
U	1.1273E+01	2.1437E+00	2.4413E+00

SPECIES

WAVE FRACTIONS

E-	4.6338E-09	5.5245E-06	1.1566E-04
PE	1.4857E-01	1.1023E-01	1.1255E-01
ME+	1.2873E-22	1.4457E-15	5.2613E-14
MF+	1.5542E-83	1.4761E-54	6.5358E-44
M	5.1403E-01	3.0721E-01	3.7377E-01
M+	3.0665E-09	4.0500E-06	1.1945E-04
M2	3.3710E-01	7.3257E-02	1.3473E-02

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$p_1 = 200 \text{ N/m}^2$$

$p_1 = 2.00 \times 10^4 \text{ N/SEC-M.}$ $USI = 1.93 \times 10^4 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2313E+02	3.0812E+03	5.2468E+03
T	1.5214E+01	3.6822E+01	4.7700E+01
RHO	1.2265E+01	4.0228E+01	5.8238E+01
H	3.4815E+01	5.7303E+01	1.2711E+02
A	4.6513E+00	8.1762E+00	7.0602E+00
S	1.6024E+00	1.6567E+00	1.7541E+00
Z	1.6360E+00	1.1147E+00	1.3875E+00
GANE	8.5317E-01	1.0012E+00	9.1059E-01
U	1.4402E+01	4.0153E+00	4.0950E+00
SPECIES			
C-	4.1562E-07	8.9744E-03	4.6713E-02
HE	1.2222E-01	1.1021E-01	1.5555E-01
HE+	9.8066E-15	2.0341E-07	1.5965E-05
HE++	6.3473E-69	2.3081E-27	1.5330E-20
H	7.7153E-01	8.7965E-01	8.0026E-01
H+	4.1062E-07	8.9744E-03	4.6878E-02
H2	1.0222E-01	8.9225E-04	3.7258E-04

$p_1 = 2.00 \times 10^4 \text{ N/SEC-M.}$ $USI = 1.60 \times 10^4 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2647E+02	2.2587E+03	3.4329E+03
T	1.3231E+01	2.1431E+01	3.1982E+01
RHO	1.2428E+01	6.3084E+01	5.9620E+01
H	3.9147E+01	7.3189E+01	8.8155E+01
A	3.9254E+00	6.1541E+00	7.8734E+00
S	1.4717E+00	1.5837E+00	1.6458E+00
Z	1.4145E+00	1.7541E+00	1.9034E+00
GANE	8.2363E-01	1.0074E+00	1.0766E+00
U	1.2673E+01	2.4944E+00	3.1066E+00
SPECIES			
C-	2.3672E-08	3.2360E-05	2.4613E-03
HE	1.4144E-01	1.1402E-01	1.1199E-01
HE+	1.0755E-21	1.8314E-13	9.6576E-05
HE++	6.5631E-20	4.9728E-50	4.5554E-32
H	5.8557E-01	8.5574E-01	3.8174E-01
H+	2.3872E-08	3.2360E-05	2.4613E-03
H2	2.7303E-01	2.6173E-02	2.4415E-03

PI = 2.00E+02 N/SEC-M, USL= 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5029E+02	2.5522E+03	4.0735E+03
T	1.3021E+01	2.0130E+01	3.8067E+01
RMD	1.2504E+01	5.4598E+01	5.7513E+01
M	4.4623E+01	7.3022E+01	1.0134E+02
A	4.1323E+00	7.1800E+00	8.3450E+00
S	1.5164E+03	1.0272E+00	1.6096E+00
Z	1.4057E+00	1.7093E+00	1.0205E+00
GAME	8.3125E-01	1.1051E+00	9.8418E-01
U	1.2059E+01	2.5666E+00	3.5557E+00

SPECIES	MOL FRACTIONS
E-	5.5207E-08
HC	1.5442E-01
HF	8.5569E-01
HE+	1.8462E-76
H	6.5302E-01
H+	5.0207E-08
H2	2.0115E-01

PI = 2.00E+02 N/SEC-M, USL= 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9004E+02	2.4212E+03	4.0833E+03
T	1.4451E+01	3.1710E+01	4.3058E+01
RMD	1.2024E+01	4.9400E+01	5.7725E+01
M	4.2057E+01	4.7023E+01	1.1215E+02
A	4.3074E+00	7.9335E+00	6.7650E+00
S	1.5019E+00	1.0041E+00	1.7230E+00
Z	1.5003E+00	1.8010E+00	1.8506E+00
GAME	8.4303E-01	1.3750E+00	9.3408E-01
U	1.3033E+01	3.5405E+00	3.8593E+00

SPECIES	MOL FRACTIONS
E-	1.4635E-07
HC	1.2910E-01
HF	7.9439E-01
HE+	3.2705E-73
H	7.1310E-01
H+	1.5035E-07
H2	1.5510E-01

PI = 2.00E+02 N/SEC-M, USL= 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5754E+02	3.3325E+03	5.6991E+03
T	1.6476E+01	4.1016E+01	5.0965E+01
RMD	1.2702E+01	4.4247E+01	5.7522E+01
M	6.3618E+01	1.0734E+02	1.4000E+02
A	5.0403E+00	8.4519E+00	9.3977E+00
S	1.5531E+00	1.7277E+00	1.7050E+00
Z	1.7085E+00	1.8303E+00	1.9206E+00
GAME	9.0238E-01	9.4846E-01	8.9019E-01
U	1.5140E+01	4.3443E+00	4.2430E+00

SPECIES	MOL FRACTIONS
E-	1.4672E-06
HC	1.1706E-01
HF	2.2411E-17
HE+	5.6643E-64
H	8.2535E-01
H+	1.4672E-06
H2	5.3581E-02

PI = 2.00E+02 N/SEC-M, USL= 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9225E+02	3.4750E+03	5.9022E+03
T	1.9431E+01	4.4399E+01	5.3565E+01
RMD	1.2031E+01	4.1573E+01	5.5881E+01
M	6.6693E+01	1.1771E+02	1.5224E+02
A	5.6520E+00	8.7186E+00	9.7016E+00
S	1.6964E+00	1.7503E+00	1.8172E+00
Z	1.7000E+00	1.9647E+00	1.9722E+00
GAME	9.5421E-01	9.1915E-01	9.9046E-01
U	1.5623E+01	4.5408E+00	4.3461E+00

SPECIES	MOL FRACTIONS
E-	8.8040E-04
HC	1.1325E-01
HF	1.0725E-01
HE+	5.9954E-05
H	6.5637E-07
H+	4.3437E-22
H2	3.2225E-01
H2	3.5067E-02
H2	3.5907E-04

P1 = 2.00E+02 N/SC-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.79C3F+02	3.8456F+03	6.06C3E+13
T	3.6656F+01	5.5596E+01	6.2579E+01
RHO	8.6031E+00	3.3498E+01	4.3378E+01
M	1.01C1F+02	1.7458E+02	2.1935E+02
A	7.8959F+00	1.0039F+01	1.11C1E+01
S	1.8483F+00	1.9143E+00	1.9788E+00
Z	1.8341F+00	2.0649E+00	2.2104E+00
GAME	5.2726E-01	8.7790F-01	8.82C2E-01
U	1.8882F+01	4.8481F+00	4.66E8F+00

SPECIES	MOLE FRACTIONS
E-	1.5818E-02
HF	1.0493F-01
HE+	4.3453F-07
ME+	9.3474F-27
H	8.5127E-01
M+	1.5817E-02
M2	1.6329F-04
	1.2839E-01
	9.6682E-02
	1.7493F-04
	7.6508E-17
	6.4645E-01
	1.2821E-01
	9.7528E-05
	1.8867E-01
	8.9447E-02
	7.0272E-04
	1.5555E-14
	5.3151F-01
	1.8796E-01
	6.7202E-05

P1 = 2.00E+02 N/SC-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.2424F+02	4.1644E+03	6.5072F+13
T	3.9C80F+01	5.7720F+01	6.5134F+01
RHO	8.5918E+00	3.1105E+01	4.3843E+01
M	1.0085F+02	1.6800E+02	2.3576E+02
A	8.0851F+00	1.0351F+01	1.1448F+01
S	1.8717E+00	1.7421E+00	2.0087F+00
Z	1.8589E+00	2.1151E+00	2.2746E+00
GAME	9.3C73F-01	8.7752E-01	8.8345E-01
U	1.9604F+01	4.9365F+00	4.7782F+00

SPECIES	MOLE FRACTIONS
E-	3.1759E-01
HF	1.0757E-01
HE+	1.4610E-05
ME+	7.5113E-16
H	6.2869F-01
M+	3.1758F-02
M2	1.1573E-04
	1.4509E-01
	7.4277E-02
	2.7959E-04
	4.3256E-16
	6.0745E-01
	1.4880F-01
	8.1281F-05
	2.0977E-01
	8.6778F-02
	1.0324E-03
	6.2557E-14
	4.9364E-01
	2.0272E-01
	5.5505E-05

P1 = 2.00E+02 N/SC-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6C63E+02	3.3951E+03	5.5729E+13
T	2.6C58E+01	4.9279E+01	5.7267E+01
RHO	5.8C53E+00	3.5620E+01	4.7150F+01
M	7.9513F+01	1.3865E+02	1.77C8E+02
A	7.2222F+00	5.2098E+00	1.0212E+01
S	1.7685F+00	1.4256E+00	1.8859F+00
Z	1.7554E+00	1.9342E+00	2.0620E+00
GAME	1.11C7E+00	8.0571E-01	8.8312E-01
U	1.6573E+01	4.6727E+00	4.4543E+00

SPECIES	MOLE FRACTIONS
E-	8.2420E-04
HE	1.1115E-01
ME+	1.5823E-10
ME+	3.4139E-39
M	8.64C3E-01
M+	8.2620E-04
M2	1.1710E-03
	6.9553E-02
	1.0337E-01
	3.2253E-05
	1.7185E-19
	7.5733F-01
	6.9521E-02
	1.8550E-04
	1.2721E-01
	9.6775E-02
	2.1633F-04
	2.1571F-16
	6.4888E-01
	1.2499F-01
	1.2761E-04

P1 = 2.00E+02 N/SC-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6712E+02	3.4394E+03	5.5450E+13
T	3.0233E+01	5.1383E+01	5.9014E+01
RHO	5.1C48E+00	3.39C7E+01	4.4563E+01
M	8.6345E+01	1.4588E+02	1.8552F+02
A	7.34C5E+00	9.4654E+00	1.0478E+01
S	1.7574E+00	1.8567E+00	1.9175E+00
Z	1.8C65E+00	1.9741E+00	2.1102F+00
GAME	1.7414E+00	8.8324F-01	8.8157E-01
U	1.7553E+01	4.7106E+00	4.5024F+00

SPECIES	MOLE FRACTIONS
E-	3.7553E-03
HE	1.1074E-01
ME+	5.7753E-06
ME+	6.7245E-23
M	8.8124E-01
M+	3.7553E-03
M2	4.5013E-04
	8.8350E-02
	1.0125E-01
	6.0126E-05
	1.5871E-19
	7.4193F-01
	4.3294F-02
	1.4733F-04
	1.4711F-01
	9.4454F-02
	3.2309E-04
	8.9408E-16
	9.1122F-01
	1.4679E-01
	1.0128E-04

$$p_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SC-M, US1 = 2.80E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7180E+02	4.5342E+03	7.0303E+13
T	4.1190E+01	5.9039E+01	6.7363E+01
RHO	8.6520E+00	3.4951E+01	4.4656E+01
H	1.1701E+02	2.0335E+02	2.5316E+02
M	8.2850E+00	1.0675E+01	1.1813E+01
S	1.8548E+00	1.9657E+00	2.0385E+00
A	1.8653E+00	2.4880E+00	2.3357E+00
Z	8.8477E-01	8.7806E-01	8.8535E-01
GAME	2.0349E+01	5.0393E+00	4.8866E+00
U			

P1 = 2.50E+02 N/SC-M, US1 = 3.20E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.8150E+02	6.3930E+03	5.97534E+13
T	4.7823E+01	6.4324E+01	7.5845E+1
RHO	5.1553E+00	3.8996E+01	4.8885E+1
H	1.5275E+02	2.6791E+02	3.3111E+02
M	9.1022E+00	1.2946E+01	1.4391E+01
A	1.5814E+00	2.0801E+00	2.1526E+00
S	2.3157E+00	2.3157E+00	2.6073E+00
Z	4.5204E-01	4.8519E-01	4.5509E-01
GAME	2.3422E+01	5.5045E+00	5.4245E+00
U			

P1 = 2.00E+02 N/SC-M, US1 = 2.80E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7180E+02	4.5342E+03	7.0303E+13
T	4.1190E+01	5.9039E+01	6.7363E+01
RHO	8.6520E+00	3.4951E+01	4.4656E+01
H	1.1701E+02	2.0335E+02	2.5316E+02
M	8.2850E+00	1.0675E+01	1.1813E+01
S	1.8548E+00	1.9657E+00	2.0385E+00
A	1.8653E+00	2.4880E+00	2.3357E+00
Z	8.8477E-01	8.7806E-01	8.8535E-01
GAME	2.0349E+01	5.0393E+00	4.8866E+00
U			

P1 = 2.00E+02 N/SC-M, US1 = 2.80E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7180E+02	4.5342E+03	7.0303E+13
T	4.1190E+01	5.9039E+01	6.7363E+01
RHO	8.6520E+00	3.4951E+01	4.4656E+01
H	1.1701E+02	2.0335E+02	2.5316E+02
M	8.2850E+00	1.0675E+01	1.1813E+01
S	1.8548E+00	1.9657E+00	2.0385E+00
A	1.8653E+00	2.4880E+00	2.3357E+00
Z	8.8477E-01	8.7806E-01	8.8535E-01
GAME	2.0349E+01	5.0393E+00	4.8866E+00
U			

P1 = 2.00E+02 N/SC-M, US1 = 2.80E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7180E+02	4.5342E+03	7.0303E+13
T	4.1190E+01	5.9039E+01	6.7363E+01
RHO	8.6520E+00	3.4951E+01	4.4656E+01
H	1.1701E+02	2.0335E+02	2.5316E+02
M	8.2850E+00	1.0675E+01	1.1813E+01
S	1.8548E+00	1.9657E+00	2.0385E+00
A	1.8653E+00	2.4880E+00	2.3357E+00
Z	8.8477E-01	8.7806E-01	8.8535E-01
GAME	2.0349E+01	5.0393E+00	4.8866E+00
U			

P1 = 2.00E+02 N/SC-M, US1 = 2.80E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7180E+02	4.5342E+03	7.0303E+13
T	4.1190E+01	5.9039E+01	6.7363E+01
RHO	8.6520E+00	3.4951E+01	4.4656E+01
H	1.1701E+02	2.0335E+02	2.5316E+02
M	8.2850E+00	1.0675E+01	1.1813E+01
S	1.8548E+00	1.9657E+00	2.0385E+00
A	1.8653E+00	2.4880E+00	2.3357E+00
Z	8.8477E-01	8.7806E-01	8.8535E-01
GAME			

P1 = 2.00E+02 M/SC-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SP-CK
P	7.2174E+02	4.9485E+03	7.6363E+03
T	4.3566E+01	6.1954E+01	6.9649E+01
RHO	8.7531E+00	3.5914E+01	4.5406E+01
M	1.2548E+02	2.1855E+02	2.7143E+02
A	8.4534E+00	1.1004E+01	1.2151E+01
S	1.9178E+00	1.9972E+00	2.0603E+00
Z	1.9146E+00	2.2231E+00	2.4042E+00
GAME	1.7487E-01	8.7924E-01	8.8758E-01
U	2.1109E+01	5.1494E+00	5.0168E+00

SPECIES	PULF FRACTIONS
E-	5.9956E-02
HE	1.6445E-01
ME+	7.8545E-06
ME++	3.4237E-22
M	7.7556E-01
M+	5.5948E-02
M2	7.6014E-05

P1 = 2.00E+02 M/SC-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SP-CK
P	1.7011E+03	7.4956E+03	1.1389E+04
T	5.0645E+01	7.4639E+01	8.1962E+01
RHO	9.4463E+00	4.0886E+01	5.0538E+01
M	1.7243E+02	3.0366E+02	3.7472E+02
A	9.5466E+00	1.2772E+01	1.4237E+01
S	2.0325E+00	2.1389E+00	2.2154E+00
Z	2.0515E+00	2.5238E+00	2.7471E+00
GAME	8.5556E-01	8.8986E-01	9.0021E-01
U	2.6482E+01	5.7769E+00	5.7369E+00

SPECIES	PULF FRACTIONS
E-	1.3944E-01
HE	9.5529E-02
ME+	9.1890E-03
ME++	2.8612E-18
M	6.2555E-01
M+	1.3935E-01
M2	3.6045E-05

P1 = 2.00E+02 M/SC-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7369E+02	5.3975E+03	8.2915E+03
T	4.6778E+01	6.4072E+01	7.1989E+01
RHO	8.9774E+00	3.6943E+01	4.6628E+01
M	1.3427E+02	2.3441E+02	2.9052E+02
A	8.7005E+00	1.1345E+01	1.2581E+01
S	1.9406E+00	2.0247E+00	2.0983E+00
Z	1.9464E+00	2.2803E+00	2.4762E+00
GAME	8.6581E-01	8.3901E-01	8.9001E-01
U	2.1873E+01	5.2582E+00	5.1422E+00

SPECIES	PULF FRACTIONS
E-	7.2235E-02
HE	1.6274E-01
ME+	1.4724E-05
ME++	3.4075E-21
M	7.4668E-01
M+	7.5241E-02
M2	6.3286E-05

P1 = 2.00E+02 M/SC-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SP-CK
P	1.1266E+03	8.9556E+03	1.3122E+04
T	5.3259E+01	7.7075E+01	8.7421E+01
RHO	9.7212E+00	4.2555E+01	5.2209E+01
M	1.9321E+02	3.4159E+02	4.2135E+02
A	9.9814E+00	1.3521E+01	1.5124E+01
S	2.0754E+00	2.1918E+00	2.2805E+00
Z	2.1721E+00	2.6511E+00	2.9881E+00
GAME	8.6016E-01	9.9471E-01	9.0592E-01
U	2.4530E+01	6.0632E+00	6.0721E+00

SPECIES	PULF FRACTIONS
E-	1.7172E-01
HE	9.1451E-02
ME+	1.6272E-04
ME++	3.6175E-17
M	7.6443E-01
M+	1.7151E-01
M2	2.5515E-05

Table II. - Continued

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SC-M, US1 = 3.00E+04 M/SEC				P1 = 2.00E+02 N/SC-M, US1 = 4.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOL FRACTIONS				MOL FRACTIONS			
E-	2.0341E-01	3.5247E-01	4.0554E-01	E-	2.5215E-01	4.2554E-01	4.7251E-01
ME	8.0179E-02	6.2234E-02	4.3205E-02	ME	7.7112E-02	3.3403E-02	1.0496E-02
HE+	3.3403E-04	9.7108E-03	2.2847E-02	HE+	1.5307E-03	2.9983E-02	4.8111E-02
M	3.3501E-15	2.7564E-10	1.3214E-08	M	9.3160E-14	4.9643E-08	3.8487E-06
M+	5.6456E-01	2.3282E-01	1.4572E-01	M+	3.3856E-01	1.0753E-01	4.4490E-02
M2	2.6303E-01	3.4276E-01	3.8269E-01	M2	3.5061E-01	3.5953E-01	4.2439E-01
	1.5169E-05	9.5291E-06	3.9791E-06		7.4518E-06	1.8275E-06	3.0599E-07
P	1.2580E+03	9.5751E+03	1.5121E+04	P	1.6563E+03	1.4168E+04	2.1814E+04
T	5.5629E+01	8.1684E+01	5.3606E+01	T	6.3254E+01	5.7413E+01	1.1891E+02
M	9.9726E+00	4.3931E+01	5.3652E+01	M	1.0547E+01	4.6093E+01	5.3758E+01
A	2.1335E+02	3.8166E+02	4.7104E+02	A	2.8674E+02	5.1913E+02	6.4244E+02
M	1.0427E+01	1.4251E+01	1.6077E+01	M	1.1843E+01	1.6854E+01	2.0174E+01
S	2.1268E+00	2.2480E+00	2.3417E+00	S	2.2726E+00	2.4163E+00	2.5250E+00
Z	2.2556E+00	2.7797E+00	3.0279E+00	Z	2.5429E+00	3.1553E+00	3.5124E+00
GAMF	8.0177E-01	8.9548E-01	9.1429E-01	GAMF	8.7143E-01	9.4414E-01	1.0030E+00
U	2.8095E+01	6.3819E+00	6.4369E+00	U	3.2723E+01	7.4873E+00	7.9833E+00

P1 = 2.00E+02 N/SC-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3972E+03	1.1324E+04	1.7156E+04
T	5.0311E+01	8.5522E+01	1.0006E+02
RHO	1.0195E+01	4.5008E+01	5.4310E+01
M	2.3865E+02	4.2381E+02	5.2354E+02
A	1.7894E+01	1.5038E+01	1.7152E+01
S	2.1745E+00	2.3044E+00	2.4030E+00
Z	2.3504E+00	2.9077E+00	3.1644E+00
GAME	8.6434E-01	9.0472E-01	9.2909E-01
U	2.5644E+01	6.7187E+00	6.8422E+00

SPECIES	MOLF FRACTIONS	
E-	2.3419E-01	3.8095E-01
HE	8.4515E-02	5.3699E-02
HE+	5.7634E-04	1.5085E-02
HE++	2.5117E-15	1.7318E-05
H	4.4707E-01	1.8439E-01
H+	2.3351E-01	3.5587E-01
H2	1.4230E-05	5.8049E-06

P1 = 2.00E+02 N/SC-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3972E+03	1.1324E+04	1.7156E+04
T	5.0311E+01	8.5522E+01	1.0006E+02
RHO	1.0195E+01	4.5008E+01	5.4310E+01
M	2.3865E+02	4.2381E+02	5.2354E+02
A	1.7894E+01	1.5038E+01	1.7152E+01
S	2.1745E+00	2.3044E+00	2.4030E+00
Z	2.3504E+00	2.9077E+00	3.1644E+00
GAME	8.6434E-01	9.0472E-01	9.2909E-01
U	2.5644E+01	6.7187E+00	6.8422E+00

SPECIES	MOLF FRACTIONS	
E-	2.3419E-01	3.8095E-01
HE	8.4515E-02	5.3699E-02
HE+	5.7634E-04	1.5085E-02
HE++	2.5117E-15	1.7318E-05
H	4.4707E-01	1.8439E-01
H+	2.3351E-01	3.5587E-01
H2	1.4230E-05	5.8049E-06

P1 = 2.00E+02 N/SC-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3972E+03	1.1324E+04	1.7156E+04
T	5.0311E+01	8.5522E+01	1.0006E+02
RHO	1.0195E+01	4.5008E+01	5.4310E+01
M	2.3865E+02	4.2381E+02	5.2354E+02
A	1.7894E+01	1.5038E+01	1.7152E+01
S	2.1745E+00	2.3044E+00	2.4030E+00
Z	2.3504E+00	2.9077E+00	3.1644E+00
GAME	8.6434E-01	9.0472E-01	9.2909E-01
U	2.5644E+01	6.7187E+00	6.8422E+00

SPECIES	MOLF FRACTIONS	
E-	2.3419E-01	3.8095E-01
HE	8.4515E-02	5.3699E-02
HE+	5.7634E-04	1.5085E-02
HE++	2.5117E-15	1.7318E-05
H	4.4707E-01	1.8439E-01
H+	2.3351E-01	3.5587E-01
H2	1.4230E-05	5.8049E-06

P1 = 2.00E+02 N/SC-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3972E+03	1.1324E+04	1.7156E+04
T	5.0311E+01	8.5522E+01	1.0006E+02
RHO	1.0195E+01	4.5008E+01	5.4310E+01
M	2.3865E+02	4.2381E+02	5.2354E+02
A	1.7894E+01	1.5038E+01	1.7152E+01
S	2.1745E+00	2.3044E+00	2.4030E+00
Z	2.3504E+00	2.9077E+00	3.1644E+00
GAME	8.6434E-01	9.0472E-01	9.2909E-01
U	2.5644E+01	6.7187E+00	6.8422E+00

SPECIES	MOLF FRACTIONS	
E-	2.3419E-01	3.8095E-01
HE	8.4515E-02	5.3699E-02
HE+	5.7634E-04	1.5085E-02
HE++	2.5117E-15	1.7318E-05
H	4.4707E-01	1.8439E-01
H+	2.3351E-01	3.5587E-01
H2	1.4230E-05	5.8049E-06

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SC-M, US1 = 5.00E+04 M/SEC				P1 = 2.00E+02 N/SC-P, US1 = 5.00E+04 M/SEC			
SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.675E-01	4.75E-01	4.9E0F-C1	E-	4.280E-01	4.570E-01	5.140E-C1
HE	6.435E-C2	7.616E-03	9.682E-04	HE	4.672E-C2	1.087E-03	2.211E-C4
HF+	8.830E-C3	5.019E-02	5.145E-C2	HF+	1.883E-C2	5.341E-C2	2.367E-C2
HE++	1.263E-11	7.294E-06	3.298E-C3	HE++	1.323E-09	1.370E-03	3.009E-C2
H	1.957E-01	3.312E-02	5.323E-C3	H	4.525E-C2	6.114E-03	1.865E-C3
M+	3.621E-C1	4.294E-01	4.405E-C1	M+	4.091E-01	4.409E-01	4.301E-C1
M2	2.285E-C2	1.365E-C7	2.754E-C5	M2	4.875E-C7	3.603E-C9	2.960E-10
P	2.158E+03	1.835E+04	3.019E+C4	P	2.753E+C3	2.170E+C4	3.831E+C4
T	7.137E+01	1.215E+02	1.8030E+C2	T	4.113E+01	1.6570E+C2	2.128E+C2
MO	1.080E+01	4.373E+01	4.665E+C1	MO	1.378E+C1	3.672E+C1	4.445E+C1
M	3.727E+02	6.625E+02	8.074E+C2	M	4.672E+02	8.209E+C2	1.102E+C3
A	1.341E+C1	2.076E+01	2.617E+C1	A	1.514E+C1	2.541E+C1	2.930E+C1
S	2.421E+00	2.575E+00	2.657E+C	S	2.5710E+00	2.710E+00	2.822E+C2
Z	2.847E+00	3.455E+00	3.585E+C	Z	3.146E+C2	3.570E+C2	3.708E+C2
GAMF	8.846E-01	1.025E+00	1.058E+C	GAMF	8.985E-01	1.091E+00	9.954E-C1
U	3.728E+01	9.215E+00	1.123E+C1	U	4.114E+C1	1.227E+01	1.337E+C1

PI = 2.00E+02 N/SC-M, US1 = 5.20E+04 M/SEC

PI = 2.00E+02 N/SC-M, US1 = 5.20E+04 M/SEC

MOVING SHOCK REFLECTED SHOCK
P 2.3754E+03 3.4973E+04
T 7.4369E+01 1.9979E+02
RHO 1.0826E+01 4.5522E+01
M 4.0307E+02 9.4527E+02
A 1.3957E+01 2.8935E+01
S 2.4716E+00 2.7421E+00
Z 2.9454E+00 3.6230E+00
GAME 8.9521E-01 1.0023E+00
U 3.0780E+01 1.0114E+01

MOVING SHOCK REFLECTED SHOCK
P 2.3754E+03 3.4973E+04
T 7.4369E+01 1.9979E+02
RHO 1.0826E+01 4.5522E+01
M 4.0307E+02 9.4527E+02
A 1.3957E+01 2.8935E+01
S 2.4716E+00 2.7421E+00
Z 2.9454E+00 3.6230E+00
GAME 8.9521E-01 1.0023E+00
U 3.0780E+01 1.0114E+01

SPECIES ----- MILE FRACTIONS -----
F- 4.4442E-01 5.0003E-01 5.1874E-01
MC 3.5509E-02 6.9658E-04 1.1197E-04
ME+ 5.0204E-02 3.9309E-02 1.4320E-02
ME++ 5.5072E-05 4.6516E-03 3.9032E-03
M 7.5448E-02 3.9032E-03 1.3585E-03
M+ 4.1862E-01 4.4522E-01 4.2637E-01
M2 2.6477E-07 1.1257E-09 1.6030E-10

SPECIES ----- MILE FRACTIONS -----
F- 4.4442E-01 5.0003E-01 5.1874E-01
MC 3.5509E-02 6.9658E-04 1.1197E-04
ME+ 5.0204E-02 3.9309E-02 1.4320E-02
ME++ 5.5072E-05 4.6516E-03 3.9032E-03
M 7.5448E-02 3.9032E-03 1.3585E-03
M+ 4.1862E-01 4.4522E-01 4.2637E-01
M2 2.6477E-07 1.1257E-09 1.6030E-10

PI = 2.00E+02 N/SC-M, US1 = 6.00E+04 M/SEC

PI = 2.00E+02 N/SC-M, US1 = 6.00E+04 M/SEC

MOVING SHOCK REFLECTED SHOCK
P 3.1564E+03 2.3587E+04
T 8.5284E+01 1.9548E+02
RHO 5.3613E+02 9.4553E+02
M 1.5542E+01 2.6584E+01
A 2.6682E+00 2.7860E+00
S 3.3277E+00 3.6268E+00
Z 9.2103E-01 9.9877E-01
GAME 4.4665E+01 1.4028E+01
U 4.4665E+01 1.4028E+01

MOVING SHOCK REFLECTED SHOCK
P 3.1564E+03 2.3587E+04
T 8.5284E+01 1.9548E+02
RHO 5.3613E+02 9.4553E+02
M 1.5542E+01 2.6584E+01
A 2.6682E+00 2.7860E+00
S 3.3277E+00 3.6268E+00
Z 9.2103E-01 9.9877E-01
GAME 4.4665E+01 1.4028E+01
U 4.4665E+01 1.4028E+01

SPECIES ----- MILE FRACTIONS -----
F- 4.5509E-01 5.0369E-01 5.2234E-01
MC 2.6534E-02 4.7306E-04 6.5506E-05
ME+ 3.3557E-02 4.4043E-02 7.2529E-03
ME++ 2.6252E-08 1.2642E-22 4.5735E-02
M 5.5298E-02 2.7742E-03 1.0003E-03
M+ 4.2552E-01 4.3839E-01 4.2358E-01
M2 1.4369E-07 5.3027E-10 7.7829E-11

SPECIES ----- MILE FRACTIONS -----
F- 4.5509E-01 5.0369E-01 5.2234E-01
MC 2.6534E-02 4.7306E-04 6.5506E-05
ME+ 3.3557E-02 4.4043E-02 7.2529E-03
ME++ 2.6252E-08 1.2642E-22 4.5735E-02
M 5.5298E-02 2.7742E-03 1.0003E-03
M+ 4.2552E-01 4.3839E-01 4.2358E-01
M2 1.4369E-07 5.3027E-10 7.7829E-11

Table II. - Continued

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SC-M, US1 = 5.20E+04 M/SEC				P1 = 2.00E+02 N/SC-M, US1 = 6.80E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	A	P	T	RHO	A
3.3644E+03	5.4359E+01	1.0420E+01	5.7223E+02	3.5559E+03	1.2010E+02	5.3370E+01	6.5654E+02
1.7446E+01	2.7131E+00	1.7446E+01	2.7131E+00	2.6414E+04	2.4678E+02	2.8534E+01	1.1804E+03
3.4079E+00	3.4079E+00	3.4079E+00	3.4079E+00	3.7981E+01	3.7981E+01	3.7981E+01	3.7981E+01
3.4611E+01	3.4611E+01	3.4611E+01	3.4611E+01	2.9315E+00	2.9315E+00	2.9315E+00	2.9315E+00
4.6072E+01	4.6072E+01	4.6072E+01	4.6072E+01	3.7512E+03	3.7512E+03	3.7512E+03	3.7512E+03
				1.0368E+00	1.0368E+00	1.0368E+00	1.0368E+00
				1.6312E+01	1.6312E+01	1.6312E+01	1.6312E+01
SPECIES				SPECIES			
M/L FRACTIONS				M/L FRACTIONS			
E-	4.7182E-01	5.0000E-01	5.2436E-01	E-	4.5485E-01	5.2015E-01	5.2596E-01
HE	1.7347E-02	3.1813E-04	1.6075E-05	HE	2.0577E-03	6.3857E-05	8.2869E-07
HE+	4.1145E-02	3.5745E-02	3.3928E-03	HE+	5.4043E-02	1.1912E-02	5.0242E-04
HF+	1.2105E-07	1.5553E-02	4.5498E-02	HF+	2.7537E-05	4.1341E-02	5.2163E-02
H	3.1623E-02	2.0585E-03	6.9371E-04	H	8.2765E-03	9.8053E-04	2.4286E-04
H+	3.1067E-01	4.3510E-01	4.2209E-01	H+	4.4075E-01	4.2555E-01	4.2112E-01
H2	5.1123E-08	2.8778E-10	3.5072E-11	H2	1.8553E-05	5.2030E-11	3.3990E-12

PI = 2.00E+02 N/SEC-M, US1 = 7.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2059E+03	2.6195E+04	5.0617E+4
T	1.3280E+02	2.6196E+02	4.3522E+02
RND	8.8439E+00	2.6522E+01	3.0500E+01
M	7.2649E+02	1.2404E+03	1.7753E+03
A	2.3112E+01	3.2602E+01	4.3833E+01
S	2.8234E+00	2.9670E+00	3.0822E+00
Z	3.5812E+00	3.7704E+00	3.7901E+00
GAME	1.1230E+00	1.0745E+00	1.1610E+00
U	5.1017E+01	1.7039E+01	2.0770E+01

SPECIES	POLE FRACTIONS
E-	4.5718E-01
ME	5.2260E-01
PE+	3.3928E-05
HF+	7.0508E-03
H	5.4748E-02
H+	1.8091E-04
H2	4.5017E-03
	7.4081E-04
	4.2362E-01
	2.7199E-11
	4.8300E-10

PI = 2.00E+02 N/SEC-M, US1 = 6.60E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5749E+03	2.5886E+04	4.8416E+04
T	1.0050E+02	2.2059E+02	3.3532E+02
RND	1.0107E+01	3.1776E+01	3.8076E+01
M	6.0534E+02	1.0577E+03	1.4744E+03
A	1.8421E+01	2.8300E+01	3.8208E+01
S	2.7810E+00	2.4589E+00	2.9748E+00
Z	3.4779E+00	3.6930E+00	3.7921E+00
GAME	5.8813E-01	5.8314E-01	1.1481E+00
U	4.7427E+01	1.5200E+01	1.7343E+01

SPECIES	POLE FRACTIONS
E-	4.8243E-01
ME	5.1262E-01
PE+	2.0373E-04
HF+	2.6918E-02
H	2.7034E-02
H+	1.6353E-03
H2	4.3161E-01
	1.0594E-10
	5.2532E-01
	5.4858E-06
	1.6070E-03
	5.1129E-02
	4.7717E-04
	4.2146E-01
	1.5399E-11

PI = 2.00E+02 N/SEC-M, US1 = 6.60E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7834E+03	2.6315E+04	4.9753E+4
T	1.0545E+02	2.3321E+02	3.6806E+02
RND	9.7558E+00	3.0292E+01	3.5538E+01
M	6.4745E+02	1.1192E+03	1.5755E+03
A	2.3103E+01	2.9525E+01	4.0247E+01
S	2.8023E+00	2.9556E+00	3.0138E+00
Z	3.5303E+00	3.7249E+00	3.7959E+00
GAME	1.3463E+00	1.0035E+00	1.1570E+00
U	4.6653E+01	1.5738E+01	1.9550E+01

SPECIES	POLE FRACTIONS
E-	4.5223E-01
ME	4.7125E-01
PE+	5.1921E-02
HF+	1.0639E-02
H	3.4533E-02
H+	1.4391E-02
H2	4.3826E-01
	4.2826E-01
	9.4334E-11
	5.1677E-01
	1.1931E-04
	8.4788E-04
	5.1844E-02
	3.3534E-04
	4.2122E-01
	7.0212E-12

Table II. - Continued

 $P_1 = 500 \text{ N/m}^2$

P1 = 5.00E+02 N/SC-M, USI= 4.00E+03 M/SEC					P1 = 5.00E+02 N/SC-M, USI= 7.00E+03 M/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	

E-	1.1175E-51	5.2694E-39	3.6805E-23	1.2572E+01	2.6293E+01	3.9586E+01	1.4734E+02	2.6110E+12	
HE	2.0000E-01	2.0000E-01	1.9999E-01	3.9838E+03	5.7020E+03	7.3483E+03	9.6234E+03	1.0852E+11	
HE+	2.5193E-64	5.0644E-57	9.9130E-48	3.1753E+00	1.1400E+01	5.3718E+00	1.4506E+01	2.2500E+11	
HE++	0.	0.	0.	3.5601E+00	6.0009E+00	6.0543E+00	1.2331E+01	1.6014E+11	
H	5.6021E-10	1.7676E-07	1.2539E-04	3.2467E+00	4.1057E+00	2.5754E+00	2.8770E+00	4.0510E+10	
H+	7.2404E-20	7.2402E-20	7.2434E-20	1.7739E+00	1.9769E+00	1.1520E+00	1.1644E+00	1.1908E+00	
H2	8.0000E-01	8.0000E-01	7.9580E-01	1.0612E+00	1.0631E+00	1.0000E+00	1.0000E+00	1.0652E+00	
				1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0652E+00	
				9.9100E-01	9.9107E-01	9.0284E-01	8.3617E-01	8.2381E-01	
				2.4570E+00	1.4729E+00	4.6816E+00	1.6837E+00	1.4613E+00	

PI = 5.00E+02 N/SC-M, USL = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2439E+01	2.337E+02	3.3154E+02
T	8.6086E+00	1.953E+01	1.2041E+01
RHO	6.0207E+00	1.9929E+01	2.8329E+01
H	1.0334E+01	1.6403E+01	2.0015E+01
A	2.7229E+00	3.102E+00	3.3289E+00
S	1.1808E+00	1.2017E+00	1.2319E+00
Z	1.0150E+00	1.0710E+00	1.1157E+00
GAME	8.4757E-01	8.2451E-01	8.2151E-01
U	5.4841E+00	1.552E+00	1.4826E+00

SPECIES	MOLE FRACTIONS
P	1.0555E-13
T	1.9531E-01
RHO	4.6514E-26
H	0.
A	3.0655E-02
S	1.3263E-01
Z	1.0585E-13
GAME	8.9195E-11
U	7.7241E-01

PI = 5.00E+02 N/SC-M, USL = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7901E+01	3.2591E+02	5.5122E+02
T	9.5644E+00	1.2051E+01	1.2416E+01
RHO	6.8283E+00	2.8103E+01	3.5273E+01
H	1.2448E+01	2.1135E+01	2.5992E+01
A	2.8623E+00	3.3462E+00	3.5939E+00
S	1.2109E+00	1.2421E+00	1.2764E+00
Z	1.0357E+00	1.1275E+00	1.1878E+00
GAME	8.2371E-01	8.2120E-01	8.2603E-01
U	6.3132E+00	1.5507E+00	1.5160E+00

SPECIES	MOLE FRACTIONS
P	3.3577E-12
T	1.5237E-01
RHO	6.5600E-26
H	0.
A	7.6353E-02
S	3.3577E-12
Z	1.0420E-05
GAME	7.9225E-01
U	7.3129E-01

PI = 5.00E+02 N/SC-M, USL = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9811E+01	5.2134E+01	1.1528E+02
T	4.4083E+00	5.9013E+00	7.9373E+00
RHO	4.4558E+00	6.8315E+00	1.4459E+01
H	4.5641E+00	6.2453E+00	8.8760E+00
A	2.0732E+00	2.3728E+00	2.6691E+00
S	1.0928E+00	1.3571E+00	1.1174E+00
Z	1.0000E+00	1.0001E+00	1.0043E+00
GAME	9.7546E-01	9.5389E-01	8.9371E-01
U	3.1952E+00	1.6250E+00	1.4419E+00

SPECIES	MOLE FRACTIONS
P	2.5837E-25
T	2.0000E-01
RHO	3.3101E-25
H	0.
A	2.5267E-04
S	7.5017E-20
Z	2.2844E-15
GAME	7.9231E-01
U	0.

PI = 5.00E+02 N/SC-M, USL = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8760E+01	9.5044E+01	1.7844E+02
T	5.8406E+00	7.5621E+00	9.6203E+00
RHO	4.9235E+00	1.1252E+01	1.3079E+01
H	6.1766E+00	8.5490E+00	1.2172E+01
A	2.3654E+00	2.6500E+00	2.8750E+00
S	1.1230E+00	1.1903E+00	1.1930E+00
Z	1.0001E+00	1.0003E+00	1.0259E+00
GAME	9.5383E-01	9.5810E-01	8.3578E-01
U	3.5293E+00	1.7186E+00	1.4701E+00

SPECIES	MOLE FRACTIONS
P	5.6415E-21
T	1.9937E-01
RHO	5.1633E-27
H	0.
A	1.0000E-02
S	3.6463E-15
Z	2.0294E-12
GAME	7.5449E-01
U	7.9000E-01

Table II. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SEC-M, US1 = 1.00E+04 M/SEC				P1 = 5.00E+02 N/SEC-M, US1 = 1.30E+04 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK				STANDING SHOCK		
E-	3.459E-11	6.050E-09	3.347E-C8	E-	2.638E-C9	4.793E-07	2.331E-C6
ME	1.864E-01	1.672E-01	1.077E-C1	PE	1.652E-01	1.375E-01	1.279E-C1
ME+	1.637E-27	5.907E-22	2.507E-20	ME+	1.135E-23	1.308E-17	6.548E-16
ME++	0.	7.932E-01	4.168E-74	ME++	1.837E-36	2.291E-64	5.504E-58
H	1.352E-01	3.270E-01	4.221E-C1	H	3.472E-C1	6.246E-21	7.207E-C1
M+	3.459E-11	6.050E-09	3.347E-C8	M+	2.638E-C9	4.793E-07	2.331E-C6
MZ	6.783E-11	5.036E-01	4.200E-C1	MZ	4.875E-C1	2.397E-01	1.517E-C1
P	8.315E+01	5.151E+02	7.711E+C2	P	1.481E+02	1.209E+03	1.735E+C3
T	1.634E+C1	1.318E+01	1.429E+C1	T	1.223E+01	1.558E+01	1.838E+C1
RHO	7.678E+00	3.268E+01	4.255E+C1	YMU	1.000E+01	5.727E+01	6.033E+1
N	1.574E+01	2.646E+01	3.208E+C1	M	2.602E+C1	4.381E+01	5.477E+C1
A	3.906E+00	3.675E+00	3.887E+C0	A	3.472E+00	1.430E+00	5.041E+C0
S	1.428E+C0	1.480E+00	1.324E+C0	S	1.351E+C0	1.430E+00	1.482E+C0
Z	1.072E+C0	1.195E+00	1.267E+C0	Z	1.215E+C0	1.451E+00	1.563E+C0
GAME	8.145E-01	3.252E-01	8.338E-C1	GAME	6.186E-C1	8.583E-C1	8.850E-C1
U	7.147E+00	1.080E+00	1.574E+C0	U	5.614E+C0	1.013E+00	1.908E+C0

MOLF FRACTIONS -----

PI = 5.00E+02 N/SEC-M, USL = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7279E+02	1.5020E+03	2.1647E+13
T	1.2821E+01	1.7942E+01	2.0609E+11
RHO	1.0634E+01	5.4741E+01	6.7885E+11
H	3.0135E+01	5.3325E+01	6.6085E+11
A	3.6402E+00	4.7462E+00	5.6489E+00
S	1.3909E+07	1.4875E+00	1.5377E+00
Z	1.2674E+00	1.5498E+00	1.6764E+00
GAME	6.1551E-01	5.7944E-01	9.3358E-01
U	1.1422E+01	2.0511E+00	2.1224E+00

SPECIES	MOLT FRACTIONS
E-	7.5333E-09
HE	1.2913E-01
HE+	1.8593E-22
HE++	1.0732E-22
H	4.2135E-01
F+	7.5333E-09
M2	4.2024E-01

PI = 5.00E+02 N/SEC-M, USL = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7527E+02	1.3137E+03	2.6647E+13
T	1.3407E+01	1.3052E+01	2.6582E+11
RHO	1.1178E+01	5.6716E+01	6.1429E+11
H	3.4474E+01	5.1332E+01	7.6483E+11
A	3.3333E+00	5.4724E+00	6.7152E+00
S	1.4321E+00	1.5303E+00	1.5937E+00
Z	1.2492E+00	1.6442E+00	1.7575E+00
GAME	6.2453E-01	9.1458E-01	1.0608E+00
U	1.1222E+01	2.2632E+00	2.4340E+00

SPECIES	MOLT FRACTIONS
E-	1.5555E-08
HE	1.5047E-01
HE+	1.6593E-22
HE++	2.7937E-22
H	4.0531E-01
F+	1.5533E-09
M2	3.5422E-01

PI = 5.00E+02 N/SEC-M, USL = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0431E+02	7.1144E+02	1.0408E+13
T	1.1620E+01	1.4260E+01	1.5462E+11
RHO	8.5081E+00	3.9107E+01	5.9513E+11
H	1.8096E+01	3.2362E+01	3.8887E+11
A	3.1523E+00	3.6856E+00	4.2147E+00
S	1.2770E+00	1.3318E+00	1.3747E+00
Z	1.1125E+00	1.2731E+00	1.3578E+00
GAME	8.1254E-01	9.3339E-01	3.4512E-01
U	7.5767E+00	1.7335E+00	1.6534E+00

SPECIES	MOLT FRACTIONS
E-	1.9612E-10
HE	1.7576E-01
HE+	4.1825E-26
HE++	0.0000E+00
H	2.0239E-01
F+	1.9612E-10
M2	0.1765E-01

PI = 5.00E+02 N/SEC-M, USL = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0253E+02	5.5416E+02	1.3628E+13
T	1.1645E+01	1.5371E+01	1.6759E+11
RHO	5.2851E+00	4.5153E+01	5.5559E+11
H	2.2367E+01	3.0312E+01	4.6435E+11
A	3.1124E+00	4.1595E+00	4.5905E+00
S	1.3131E+00	1.3802E+00	1.4275E+00
Z	1.1587E+00	1.3551E+00	1.4573E+00
GAME	9.1320E-01	4.4305E-01	5.0009E-01
U	6.7557E+00	1.4591E+00	1.7622E+00

SPECIES	MOLT FRACTIONS
E-	4.0214E-10
HE	1.7262E-01
HE+	1.1337E-24
HE++	2.1227E-24
H	2.7395E-01
F+	8.0214E-10
M2	3.5346E-01

Table II. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SC-M, US1 = 1.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.273E+02	2.123E+03	3.254E+03
T	1.401E+01	2.223E+01	3.214E+01
RWD	1.162E+01	5.522E+01	5.644E+01
M	3.91C9E+01	6.975E+01	8.781E+01
A	4.031E+00	6.157E+00	7.924E+00
S	1.474E+00	1.574E+00	1.642E+00
Z	1.554E+00	1.727E+00	1.793E+00
GAME	8.311E-01	9.851E-01	1.093E+00
U	1.251E+01	2.531E+01	3.116E+01
SPECIES			
F-	4.612E-03	3.504E-03	1.612E-03
HF	1.433E-01	1.157E-01	1.115E-01
PF	1.302E-02	4.472E-13	7.050E-09
HE+	1.149E-07	1.611E-07	2.873E-02
P	5.666E-01	8.415E-01	8.800E-01
HF+	4.812E-06	3.574E-05	1.672E-03
M+	2.855E-01	4.211E-02	5.153E-03
M2			

P1 = 5.00E+02 N/SC-M, US1 = 1.90E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.217E+02	2.911E+03	5.0C3E+03
T	1.627E+01	3.717E+01	4.982E+01
RWD	1.225E+01	4.312E+01	5.356E+01
M	5.478E+01	5.679E+01	1.273E+02
A	4.775E+00	8.329E+00	9.315E+00
S	1.6C71E+00	1.594E+00	1.754E+00
Z	1.612E+00	1.8C7E+00	1.874E+00
GAME	6.558E-01	1.732E+00	9.302E-01
U	1.433E+01	4.056E+00	4.252E+00
SPECIES			
F-	7.588E-07	6.373E-03	4.029E-02
HF	1.240E-01	1.163E-01	1.067E-01
PF	5.575E-13	1.626E-07	1.979E-05
HE+	1.632E-05	1.566E-07	2.073E-02
M+	7.555E-01	8.746E-01	4.119E-01
M2	7.588E-07	6.373E-03	4.029E-02
M2	1.165E-01	2.01C7E-03	7.673E-04

P1 = 5.00E+32 N/SC-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5725E+02	2.4132E+03	3.870E+01
T	1.4668E+01	2.6432E+01	3.9616E+01
RHO	1.1569E+01	5.1399E+01	5.3815E+01
M	4.6405E+01	7.8467E+01	1.0122E+02
A	4.2484E+00	7.1230E+00	8.5256E+00
S	1.5182E+00	1.6230E+00	1.6880E+00
Z	1.4654E+00	1.7763E+00	1.8132E+00
GAME	8.3569E-01	1.0806E+00	1.0127E+00
U	1.2802E+01	2.9820E+00	3.6537E+00

SPECIES	MOLF FRACTIONS
E-	1.1637E-07
ME	1.3648E-01
ME+	1.5401E+01
ME++	4.8636E-72
M	6.3521E-01
M+	1.1637E-07
M2	2.2831E-01
	2.6129E-04
	1.1259E-01
	6.3127E-11
	7.5777E-40
	8.7329E-01
	2.6129E-04
	1.3592E-02
	9.2029E-03
	1.1030E-01
	4.7838E-07
	1.1683E-25
	8.6538E-01
	9.2029E-03
	1.9094E-03

P1 = 5.00E+32 N/SC-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8879E+02	2.6682E+03	4.4575E+03
T	1.5401E+01	3.1824E+01	4.5313E+01
RHO	1.2187E+01	4.6710E+01	5.3457E+01
M	4.9245E+01	8.7423E+01	1.1436E+02
A	4.4920E+00	7.8924E+00	8.9378E+00
S	1.5625E+00	1.6610E+00	1.7225E+00
Z	1.5386E+00	1.7950E+00	1.8402E+00
GAME	8.5163E-01	1.0905E+00	9.5803E-01
U	1.3577E+01	3.5416E+00	4.0048E+00

SPECIES	MOLF FRACTIONS
E-	2.8771E-07
ME	1.3000E-01
ME+	9.4723E-15
ME++	8.1612E-09
M	1.6145E-32
M+	6.5555E-01
M2	2.8771E-07
	1.7001E-01
	1.6840E-03
	4.4884E-03
	1.6840E-03
	1.1142E-01
	6.2129E-09
	4.6585E-06
	4.4534E-22
	8.4035E-01
	2.2527E-01
	1.1056E-03

P1 = 5.00E+32 N/SC-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5000E+02	3.1387E+03	5.4609E+03
T	1.7443E+01	4.1841E+01	5.3539E+01
RHO	1.2114E+01	4.1079E+01	5.3331E+01
M	6.0581E+01	1.0688E+02	1.4074E+02
A	5.1515E+00	8.6407E+00	9.6806E+00
S	1.6512E+00	1.7200E+00	1.7049E+00
Z	1.6549E+00	1.8261E+00	1.9124E+00
GAME	9.0256E-01	9.7718E-01	9.1520E-01
U	1.5076E+01	4.4434E+00	4.4300E+00

SPECIES	MOLF FRACTIONS
E-	2.3827E-06
ME	1.1879E-01
ME+	1.5015E-16
ME++	1.3656E-60
M	8.1258E-01
M+	2.3827E-06
M2	6.8313E-02
	1.5447E-02
	1.0552E-01
	1.4330E-06
	5.0197E-24
	8.5843E-01
	1.5447E-02
	1.1585E-03
	5.9428E-02
	1.0452E-01
	5.4280E-05
	3.0054E-18
	7.7605E-01
	5.5373E-02
	5.7548E-04

P1 = 5.00E+32 N/SC-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9101E+02	3.3045E+03	5.7423E+03
T	1.9226E+01	4.5733E+01	5.6630E+01
RHO	1.1644E+01	3.9030E+01	5.1866E+01
M	5.6515E+01	1.1700E+02	1.5387E+02
A	5.7122E+00	8.9293E+00	1.0017E+01
S	1.6538E+00	1.7570E+00	1.8162E+00
Z	1.7465E+00	1.8509E+00	1.9540E+00
GAME	9.7171E-01	9.4189E-01	9.0668E-01
U	1.5773E+01	4.7023E+00	4.5608E+00

SPECIES	MOLF FRACTIONS
E-	1.0563E-05
ME	1.1451E-01
ME+	6.1192E-15
ME++	5.1442E-50
M	3.5485E-01
M+	1.0563E-05
M2	3.0620E-02
	2.8248E-02
	1.0805E-01
	6.3479E-06
	1.0341E-21
	8.3464E-01
	2.8248E-02
	7.5162E-02
	4.4396E-04

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.0CE+02 N/SC-M, US1 = 2.0CE+04 M/SEC				P1 = 5.0CE+02 N/SC-M, US1 = 2.50E+04 M/SEC			
P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	P	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
T	4.2572E+02	3.4347E+03	5.7416E+03	T	5.3530E+02	3.4630E+03	5.6736E+03
RHJ	2.2204E+01	4.8856E+01	5.9112E+01	RHJ	3.4382E+01	5.6255E+01	6.5280E+01
H	1.0732E+01	3.6358E+01	4.8641E+01	H	8.5875E+00	3.0831E+01	4.0692E+01
A	7.0560E+01	1.2745E+02	1.6635E+02	A	5.3464E+01	1.5099E+02	2.0576E+02
S	6.533E+00	9.2306E+00	1.0314E+01	S	7.9071E+00	1.0012E+01	1.1169E+01
Z	1.7933E+00	1.7853E+00	1.8452E+00	Z	1.8238E+00	1.8818E+00	1.9452E+00
GAME	1.7832E+00	1.8807E+00	1.9569E+00	GAME	1.8128E+00	1.9914E+00	2.1358E+00
U	1.3787E+00	5.2054E+01	9.0122E+01	U	1.0031E+00	6.9424E+01	8.9466E+01
	1.6356E+01	4.8450E+00	4.6485E+00		1.8151E+01	5.0451E+00	4.8509E+00
SPECIES				SPECIES			
----- MULE FRACTIONS -----				----- MULE FRACTIONS -----			
E-	7.6225E-05	4.3443E-02	9.8537E-02	E-	7.6049E-03	9.6351E-02	1.5741E-01
HE	1.1210E-01	1.0033E-01	9.9549E-02	HE	1.1033E-01	1.0030E-01	9.2538E-02
PF+	8.4152E-13	1.8257E-05	2.0270E-04	PF+	7.6044E-08	1.3705E-04	7.0230E-04
HF+	4.6043E-47	4.4102E-20	3.4399E-16	HF+	3.4776E-26	5.8818E-17	2.8048E-14
H	8.7921E-01	9.0624E-01	7.0183E-01	H	8.7350E-01	7.0675E-01	5.9207E-01
H+	7.6225E-05	7.3627E-02	9.8734E-02	H+	7.6049E-03	9.6214E-02	1.5671E-01
H2	9.4773E-03	5.4603E-04	3.4336E-04	H2	5.6466E-04	2.5056E-04	1.7215E-04

PI = 5.00E+02 N/SEC-M, USL = 2.60E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.7705E+02	3.6727E+03	5.9457E+13
T	3.7447E+01	5.8645E+01	6.7952E+1
RHO	8.3447E+00	3.0762E+01	4.0242E+01
M	1.0054E+02	1.7376E+02	2.2095E+02
A	8.1020E+00	1.0317E+01	1.1525E+01
S	1.8417E+00	1.9097E+00	1.9748E+00
Z	1.8291E+00	2.0352E+00	2.1846E+00
GAME	5.5378E-01	8.9162E-01	8.9488E-01
U	1.8817E+01	5.1240E+00	4.9478E+00

SPECIES	MOLF FRACTIONS
E-	1.5733E-02
HE	1.0940E-01
HE+	4.6643E-07
HE++	2.4554E-26
H	8.5877E-01
H+	1.5732E-02
H2	3.5586E-04
	1.1575E-01
	9.8042E-02
	2.3048E-04
	3.9007E-16
	6.7025E-01
	1.1554E-01
	2.0582E-04
	1.7711E-01
	9.0357E-02
	1.0252E-03
	1.1139E-13
	5.5409E-01
	1.7688E-01
	1.4159E-04

PI = 5.00E+02 N/SEC-M, USL = 2.70E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.2153E+02	3.5470E+03	6.3381E+13
T	4.0435E+01	6.1030E+01	6.9937E+1
RHO	8.3153E+00	3.1054E+01	4.0376E+01
M	1.0875E+02	1.8732E+02	2.3724E+02
A	8.3024E+00	1.0637E+01	1.1859E+01
S	1.9726E+00	1.9369E+00	2.0040E+00
Z	1.9484E+00	2.0819E+00	2.2445E+00
GAME	9.2243E-01	8.9754E-01	8.9584E-01
U	1.9515E+01	5.2217E+00	5.0588E+00

SPECIES	MOLF FRACTIONS
E-	2.6420E-02
HE	1.0820E-01
HE+	1.7358E-06
HE++	2.8428E-24
H	6.3034E-01
H+	2.6447E-02
H2	2.5833E-04
	1.3550E-01
	5.5555E-02
	3.5591E-04
	2.2069E-15
	6.3255E-01
	1.3522E-01
	1.7167E-04
	1.5817E-01
	8.7630E-02
	1.4749E-03
	5.1591E-01
	1.9670E-01
	1.1719E-04

PI = 5.00E+02 N/SEC-M, USL = 2.30E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0036E+02	3.3160E+03	5.5982E+13
T	2.6277E+01	5.1528E+01	6.1165E+01
RHO	5.7544E+00	3.3620E+01	4.4852E+01
M	7.9504E+01	1.3804E+02	1.7885E+02
A	7.2333E+00	9.4600E+00	1.0584E+01
S	1.7673E+00	1.8217E+00	1.8825E+00
Z	1.7560E+00	1.9141E+00	2.0466E+00
GAME	1.1148E+00	9.0733E-01	8.5352E-01
U	1.6562E+01	4.9173E+00	4.7050E+00

SPECIES	MOLF FRACTIONS
E-	5.6410E-04
HE	1.1136E-01
HE+	1.0130E-10
HE++	2.5426E-35
H	8.8474E-01
H+	5.6410E-04
H2	2.7757E-03
	6.0034E-02
	1.0445E-01
	4.0181E-05
	7.3068E-19
	7.7508E-01
	5.9994E-02
	4.0473E-04
	1.1819E-01
	9.7651E-02
	3.1788E-04
	1.6488E-15
	6.6567E-01
	1.1787E-01
	2.6728E-04

PI = 5.00E+02 N/SEC-M, USL = 2.40E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5642E+02	3.3369E+03	5.5440E+13
T	3.0576E+01	5.3927E+01	5.3175E+01
RHO	5.0054E+00	3.1716E+01	4.2048E+01
M	8.6321E+01	4.4909E+02	1.9125E+02
A	7.0725E+00	9.7263E+00	1.0825E+01
S	1.7474E+00	1.8527E+00	1.9150E+00
Z	1.8029E+00	1.9510E+00	2.0871E+00
GAME	1.0048E+00	8.9911E-01	8.9540E-01
U	1.7531E+01	4.5750E+00	4.7807E+00

SPECIES	MOLF FRACTIONS
E-	2.6594E-03
HE	1.1053E-01
HE+	5.5263E-05
HE++	4.5314E-33
H	3.8253E-01
H+	2.6594E-03
H2	1.0732E-03
	7.7633E-02
	1.0244E-01
	7.7050E-05
	7.4244E-18
	7.4167E-01
	7.7614E-02
	3.1257E-04
	1.3776E-01
	9.5330E-02
	4.7747E-04
	7.0186E-15
	5.2891E-01
	1.3729E-01
	2.1163E-04

Table II. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.0CE+C2 N/SC-M, US1 = 2.8DE+04 P/SEC				P1 = 5.0CE+C2 N/SC-M, US1 = 3.20E+04 W/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	M	P	T	RHO	M
6.657E+02	4.2713E+03	6.8200E+03	7.2417E+01	8.7413E+02	5.3557E+03	9.3245E+03	8.2911E+01
4.2832E+01	6.3411E+01	7.2417E+01	4.0892E+1	5.0440E+01	7.2822E+01	8.2911E+01	4.0813E+01
8.3365E+0C	3.1645E+01	4.0892E+1	2.5477E+12	8.7223E+00	3.4808E+01	3.2244E+2	1.3848E+01
1.1689E+02	2.0165E+02	1.0671E+01	1.2234E+11	1.5255E+02	2.6539E+02	1.2381E+01	2.1684E+0
8.5111E+00	1.0671E+01	1.2234E+11	2.0328E+1C	5.3486E+00	1.2381E+01	2.1684E+0	2.1684E+0
1.8555E+0C	1.9639E+00	2.0328E+1C	2.3032E+1C	1.5994E+00	2.0328E+1C	2.3032E+1C	2.3032E+1C
1.8723E+0C	2.1316E+00	2.3032E+1C	8.9730E+11	1.9944E+00	2.3032E+1C	2.3032E+1C	2.3032E+1C
5.0329E-01	8.9354E-01	8.9730E+11	5.1821E+1C	8.7505E-01	4.9598E-01	5.0505E-1	5.0505E-1
2.0249E+01	5.3299E+00	5.1821E+1C		2.0249E+01	5.3299E+00	5.7227E+0	5.7227E+0
SPECIES				SPECIES			
PULSE FRACTIONS				PULSE FRACTIONS			
E-	3.6814E-C2	1.5570E-01	2.1857E-C1	E-	5.7535E-C2	2.3365E-C1	2.9576E-C1
HE	1.0682E-01	9.3255E-02	8.4749E-C2	HE	1.0024E-C1	8.2753E-02	7.1209E-C2
ME+	4.4855E-C6	5.7214E-C4	2.0883E-C3	ME+	5.6222E-02	2.3578E-03	6.9869E-03
ME++	1.0325E-22	1.0191E-14	1.5328E-12	ME++	5.5896E-10	2.3067E-12	1.5585E-1C
M	8.1534E-C1	5.9520E-01	4.7802E-C1	M	7.6437E-C1	4.4584E-C1	3.3716E-C1
M+	3.8809E-02	1.5513E-01	2.1448E-C1	M+	9.7458E-C2	2.3126E-01	2.8878E-C1
M2	1.9552E-C4	1.4442E-04	5.7286E-C5	M2	3.6153E-C2	7.3897E-C3	4.4835E-C5

PI = 5.00E+02 N/SEC-M, USL = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.1786E+02	4.6473E+03	7.3671E+03
T	4.4983E+01	6.5765E+01	7.4558E+01
RHO	8.4C18E+00	3.2371E+01	4.1578E+01
A	1.2534E+02	2.1665E+02	2.7280E+02
S	8.7258E+00	1.1312E+01	1.2622E+01
Z	1.9182E+00	1.99C3E+00	2.6817E+00
GAME	1.8554E+00	2.1833E+00	2.3640E+00
U	8.9114E-01	8.9128E-01	8.99C5E-01
	2.0554E+01	5.4470E+00	5.3141E+00

SPECIES	MILE FRACTIONS
E-	5.2487E-02
HE	1.0529E-01
HE+	1.0356E-05
ME+	1.0705E-21
M	7.6958E-01
M+	5.2477E-02
M2	1.60E3E-04
	1.7556E-01
	9.0765E-02
	8.5155E-14
	4.8098E-14
	5.5790E-01
	1.7471E-01
	1.2225E-04
	2.3655E-01
	8.0658E-05

PI = 5.00E+02 N/SEC-M, USL = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.6228E+02	5.0544E+03	7.9716E+03
T	4.6545E+01	6.3128E+01	7.7574E+01
RHO	8.4950E+00	3.5170E+01	4.2336E+01
A	1.3411E+02	2.3230E+02	2.9188E+02
S	8.9439E+00	1.1662E+01	1.3025E+01
Z	1.9408E+00	2.3169E+00	2.3909E+00
GAME	1.9297E+00	2.2360E+00	2.4274E+00
U	8.8334E-01	8.9253E-01	9.0057E-01
	2.1750E+01	5.5045E+00	5.4553E+00

SPECIES	MILE FRACTIONS
E-	6.70C5E-02
HE	1.0366E-01
HE+	2.0133E-05
ME+	2.0797E-23
M	7.6215E-01
M+	5.6590E-02
M2	1.3337E-04
	1.9532E-01
	9.8104E-02
	1.0230E-03
	1.9077E-13
	5.2104E-01
	1.9400E-01
	1.7371E-04
	2.5648E-01
	7.8429E-02
	3.5754E-03
	1.7525E-11
	4.0455E-01
	2.5451E-01
	5.6654E-05

PI = 5.00E+02 N/SEC-M, USL = 3.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5486E+02	2.7427E+03	1.0854E+04
T	5.3580E+01	7.7523E+01	8.6511E+01
RHO	8.5664E+00	3.6301E+01	4.5639E+01
A	1.7422E+02	3.0000E+02	3.7612E+02
S	5.8355E+00	1.3122E+01	1.4711E+01
Z	2.0305E+00	2.1233E+00	2.2066E+00
GAME	2.3665E+00	2.6855E+00	2.6866E+00
U	8.7207E-01	8.9370E-01	9.0935E-01
	2.4826E+01	6.1232E+00	6.5757E+00

SPECIES	MILE FRACTIONS
E-	1.2533E-01
HE	9.6648E-02
HE+	1.3315E-04
ME+	2.1573E-17
M	0.4522E-01
M+	1.2370E-01
M2	7.1735E-05
	2.6903E-01
	7.6214E-02
	4.3067E-03
	2.1140E-11
	2.7555E-01
	3.1506E-01
	2.9360E-05

PI = 5.00E+02 N/SEC-M, USL = 3.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1105E+03	3.0356E+03	1.2527E+04
T	5.6676E+01	3.2465E+01	5.4411E+01
RHO	5.2082E+00	3.7777E+01	4.7005E+01
A	1.9303E+02	3.1435E+02	4.2278E+02
S	1.0203E+01	1.3381E+01	1.5615E+01
Z	2.0703E+00	2.1768E+00	2.2650E+00
GAME	2.1443E+00	2.6855E+00	2.6827E+00
U	8.7170E-01	8.9368E-01	9.1455E-01
	2.6371E+01	6.4920E+00	6.4225E+00

SPECIES	MILE FRACTIONS
E-	1.6077E-01
HE	5.30C5E-02
HE+	2.6830E-04
ME+	2.0676E-15
M	5.9576E-01
M+	1.0232E-01
M2	3.4244E-05
	3.0334E-01
	7.6134E-02
	7.1733E-03
	1.5575E-10
	3.2215E-01
	2.6866E-01
	1.6564E-05

Table II. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SC-M, US1 = 3.80E+04 M/SEC				P1 = 5.00E+02 N/SC-M, US1 = 4.40E+04 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK		REFLECTED SHOCK
	P	T			P	T	
C-	1.9170E-01	3.3521E-01	3.9127E-01	1.6856E+03	1.3089E+04	2.0590E+4	2.0590E+4
HE	8.9324E-02	6.2553E-02	4.2783E-02	6.7565E+01	1.0399E+02	1.2675E+02	1.2675E+02
HE+	4.5259E-04	1.1315E-02	2.4850E-02	5.9305E+00	4.1029E+01	4.8643E+01	4.8643E+01
HE++	2.6231E-15	9.6545E-10	3.5855E-08	2.8841E+02	5.0505E+02	6.4373E+02	6.4373E+02
H	5.2723E-01	2.6703E-01	1.7467E-01	1.2236E+01	1.7236E+01	2.0508E+1	2.0508E+1
M+	1.9121E-01	3.2390E-01	3.6641E-01	2.2622E+00	2.3908E+00	2.4557E+00	2.4557E+00
H2	4.1054E-05	2.4094E-05	1.1247E-05	2.4575E+00	3.0575E+00	3.3346E+00	3.3346E+00
				8.8174E-01	9.2124E-01	9.9545E-01	9.9545E-01
				3.2517E+01	7.8721E+03	8.3400E+03	8.3400E+03
SPECIES				SPECIES			
----- MULE FRACTIONS -----				----- MULE FRACTIONS -----			
C-	1.9170E-01	3.3521E-01	3.9127E-01	2.7523E-01	4.1325E-01	4.6055E-01	4.6055E-01
HE	8.9324E-02	6.2553E-02	4.2783E-02	7.7886E-02	3.4574E-02	1.3120E-02	1.3120E-02
HE+	4.5259E-04	1.1315E-02	2.4850E-02	2.1513E-03	3.0220E-02	4.6785E-02	4.6785E-02
HE++	2.6231E-15	9.6545E-10	3.5855E-08	6.5741E-13	1.0392E-07	5.6570E-06	5.6570E-06
H	5.2723E-01	2.6703E-01	1.7467E-01	3.6352E-01	1.3651E-01	6.4511E-02	6.4511E-02
M+	1.9121E-01	3.2390E-01	3.6641E-01	2.7709E-01	3.8304E-01	4.1421E-01	4.1421E-01
H2	4.1054E-05	2.4094E-05	1.1247E-05	1.6529E-05	5.9551E-06	1.3459E-06	1.3459E-06

PI = 5.00E+02 N/SC-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.362E+03	1.346E+04	1.627E+04
T	6.236E+01	9.263E+01	1.071E+02
RHO	5.621E+00	3.994E+01	4.885E+01
H	2.3837E+02	4.1587E+02	5.254E+02
A	1.1239E+01	1.546E+01	1.7681E+01
S	2.1681E+00	2.2840E+00	2.382E+00
Z	2.313E+00	2.828E+00	3.685E+00
GAME	8.7538E-01	9.127E-01	9.382E-01
U	2.945E+01	7.056E+00	7.217E+00

SPECIES	MULTI FRACTIONS
C-	4.220E-01
HE	8.560E-02
HE+	8.460E-04
HE++	1.932E-14
H	4.703E-01
H+	2.211E-01
H2	3.050E-05

PI = 5.00E+02 N/SC-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.533E+03	1.175E+04	1.835E+04
T	6.515E+01	9.308E+01	1.161E+02
RHO	5.785E+00	4.264E+01	4.908E+01
H	2.628E+02	4.636E+02	5.322E+02
A	1.172E+01	1.631E+01	1.897E+01
S	2.214E+00	2.337E+00	2.441E+00
Z	2.404E+00	2.369E+00	3.218E+00
GAME	8.783E-01	9.199E-01	9.622E-01
U	3.068E+01	7.466E+00	7.715E+00

SPECIES	MULTI FRACTIONS
C-	2.512E-01
HE	8.180E-02
HE+	1.384E-03
HE++	1.201E-13
H	4.156E-01
H+	2.458E-01
H2	2.307E-05

PI = 5.00E+02 N/SC-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.844E+03	1.442E+04	2.295E+04
T	7.062E+01	1.105E+02	1.404E+02
RHO	1.004E+01	4.102E+01	4.741E+01
H	3.192E+02	5.570E+02	7.101E+02
A	1.272E+01	1.324E+01	2.254E+01
S	4.305E+00	4.444E+00	2.557E+00
Z	2.553E+00	3.181E+00	3.447E+00
GAME	8.859E-01	9.487E-01	1.045E+00
U	3.403E+01	8.337E+00	9.136E+00

SPECIES	MULTI FRACTIONS
C-	3.059E-01
HE	7.374E-02
HE+	3.381E-03
HE++	3.271E-12
H	5.144E-01
H+	3.025E-01
H2	1.218E-05

PI = 5.00E+02 N/SC-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.005E+03	1.576E+04	2.555E+04
T	7.379E+01	1.181E+02	1.602E+02
RHO	1.312E+01	4.057E+01	4.545E+01
H	3.437E+02	5.062E+02	7.647E+02
A	1.328E+01	1.945E+01	2.675E+01
S	2.357E+00	2.494E+00	2.614E+00
Z	2.657E+00	3.287E+00	3.514E+00
GAME	8.851E-01	9.746E-01	1.052E+00
U	3.554E+01	8.673E+00	1.015E+01

SPECIES	MULTI FRACTIONS
C-	3.310E-01
HE	5.623E-02
HE+	5.031E-03
HE++	1.513E-11
H	2.868E-01
H+	3.455E-01
H2	3.567E-05

Table II. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.0CE+C2 N/SC-M, US1= 5.0JE+04 P/SEC				P1 = 5.0CE+C2 N/SC-M, US1= 5.60E+C4 M/SEC			
SPECIES	MOLE FRACTIONS		SPECIES	MOLE FRACTIONS		SPECIES	MOLE FRACTIONS
	MOVING SHOCK	STANDING SHOCK		MOVING SHOCK	STANDING SHOCK		
P	2.1823E+03	1.7071E+04	P	2.7392E+03	2.0479E+04	P	3.6332E+04
T	7.6833E+01	1.2739E+02	T	8.7041E+01	1.6762E+02	T	2.4106E+02
RHO	1.0185E+01	3.9624E+01	RHO	1.0217E+01	3.6444E+01	RHO	4.1047E+01
M	3.7232E+02	6.5713E+02	M	4.6682E+02	9.1586E+02	M	1.1034E+03
A	1.3631E+01	2.0863E+01	A	1.5582E+01	2.5582E+01	A	2.9758E+01
S	2.4C45E+00	2.5450E+00	S	1.5478E+00	2.6794E+00	S	2.7950E+00
Z	2.7685E+00	3.3821E+03	Z	3.0789E+00	3.5470E+00	Z	3.6719E+00
GAME	8.5281E-01	1.0103E+00	GAME	9.0598E-01	1.0990E+00	GAME	1.0004E+00
U	3.7C51E+01	9.5151E+00	U	4.01512E+01	1.2320E+01	U	1.3764E+01
E-	3.5459E-C1	4.6779E-01	E-	4.1538E-01	4.9254E-01	E-	5.0979E-01
HE	6.4209E-C2	1.0903E-02	HE	4.4463E-02	2.3805E-03	HE	5.8590E-04
HE+	7.5C37E-C3	4.8224E-02	HE+	2.0495E-02	5.3301E-02	HE+	2.9981E-02
HE+	6.6159E-11	7.6781E-C6	HE+	4.0170E-09	7.0352E-C4	HE+	2.3901E-02
H	2.2661E-C1	5.3523E-02	H	1.2478E-01	1.3252E-02	H	3.7407E-03
H+	3.4708E-C1	4.1955E-01	H+	3.9498E-01	4.3793E-01	H+	4.3200E-01
H2	5.6722E-C1	7.5105E-C7	H2	1.5820E-06	3.3157E-C8	H2	2.6887E-04

P1 = 5.00E+02 N/SC-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3611E+03	1.9256E+04	3.1069E+04
T	6.0036E+01	1.3866E+02	2.0483E+02
RHO	1.0219E+01	3.3162E+01	4.2209E+01
M	4.0265E+02	7.0905E+02	9.4354E+02
A	1.4353E+01	2.4459E+01	2.7583E+01
S	2.4527E+00	4.5927E+00	2.7130E+00
Z	2.9869E+00	3.4576E+00	3.5935E+00
GAME	8.5633E-01	1.0521E+00	1.0336E+00
U	3.8547E+01	1.0316E+01	1.2313E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.7653E-01	4.7541E-01	4.9510E-01
HE	5.8470E-02	6.4621E-02	1.3769E-02
HE+	1.0803E-02	5.1346E-02	4.7701E-02
HE++	2.7513E-03	3.5234E-03	6.5781E-03
H	1.8822E-01	3.4746E-01	7.0069E-01
M	3.6573E-01	4.2801E-01	4.3824E-01
M2	3.5134E-01	2.8667E-01	1.0199E-01

P1 = 5.00E+02 N/SC-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5463E+03	1.5422E+04	3.3721E+04
T	6.3424E+01	1.5235E+02	2.2346E+02
RHO	1.0230E+01	3.3295E+01	4.1557E+01
M	4.3413E+02	7.6199E+02	1.0229E+03
A	1.4597E+01	2.4130E+01	2.8520E+01
S	2.5005E+00	2.5340E+00	2.7556E+00
Z	2.9335E+00	3.5120E+00	3.6313E+00
GAME	8.5062E-01	1.0882E+00	1.0030E+00
U	4.3034E+01	1.0275E+01	1.3089E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.5570E-01	4.3747E-01	5.0430E-01
HE	5.1855E-02	3.7001E-02	9.1561E-02
HE+	1.5123E-02	5.2902E-02	3.9662E-02
HE++	1.0040E-03	1.4463E-03	1.4493E-03
H	1.5453E-01	2.1413E-01	4.9664E-01
M	3.8163E-01	4.3415E-01	4.3565E-01
M2	2.5339E-01	2.7121E-01	4.8926E-01

P1 = 5.00E+02 N/SC-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9359E+03	2.1513E+04	3.8911E+04
T	9.0967E+01	1.8371E+02	2.5892E+02
RHO	1.0177E+01	3.2777E+01	4.0511E+01
M	5.0069E+02	8.7138E+02	1.1843E+03
A	1.6239E+01	2.6549E+01	3.1289E+01
S	2.5949E+00	2.7187E+00	2.8329E+00
Z	3.1712E+00	3.5726E+00	3.7097E+00
GAME	9.1403E-01	1.0740E+00	1.0492E+00
U	4.2976E+01	1.3335E+01	1.4427E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.3240E-01	4.9617E-01	5.1479E-01
HE	3.6342E-02	1.5900E-02	3.4616E-02
HE+	2.6724E-02	5.1942E-02	2.0755E-02
HE++	1.5469E-03	2.4430E-03	3.2812E-03
H	9.8853E-02	8.5137E-02	2.8888E-02
M	4.3568E-01	4.3934E-01	4.2941E-01
M2	9.4936E-02	1.2352E-02	1.5597E-02

P1 = 5.00E+02 N/SC-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1390E+03	2.2522E+04	4.1484E+04
T	9.5336E+01	1.9924E+02	2.7998E+02
RHO	1.0100E+01	3.1419E+01	3.9585E+01
M	5.3561E+02	9.2563E+02	1.2744E+03
A	1.6972E+01	2.7195E+01	3.3261E+01
S	2.6414E+00	2.7569E+00	2.9710E+00
Z	3.2559E+00	3.5979E+00	3.7430E+00
GAME	9.2682E-01	1.0317E+00	1.0557E+00
U	4.4418E+01	1.4266E+01	1.5231E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.4783E-01	4.9971E-01	5.1913E-01
HE	2.7535E-02	1.1187E-02	1.7537E-02
HE+	3.3417E-02	4.8073E-02	1.2697E-02
HE++	5.6699E-03	6.3961E-03	4.0561E-03
H	7.6408E-02	5.1963E-02	2.1778E-02
M	4.1441E-01	4.3884E-01	4.2529E-01
M2	5.3890E-02	5.4001E-02	9.5420E-02

Table II. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SQ-M, US1 = 6.20E+04 M/SEC				P1 = 5.00E+02 N/SQ-M, US1 = 6.80E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.615E-01	5.0369E-01	5.222E-01	E-	4.8969E-01	5.1621E-01	5.2545E-01
HE	1.9825E-02	7.9628E-04	7.4924E-05	HE	3.8506E-03	2.2379E-04	4.5945E-04
HE+	3.9959E-02	4.1829E-02	6.969E-03	HE+	5.2832E-02	1.8767E-02	1.2273E-03
HE++	2.1253E-07	1.2521E-02	4.6104E-02	HE++	1.8803E-05	3.4764E-02	5.196E-02
H	5.7007E-22	4.3604E-03	1.5823E-03	H	1.6791E-02	2.1274E-03	5.9838E-04
M+	4.2159E-01	4.3691E-01	4.2311E-01	M+	4.3682E-01	4.2791E-01	4.2123E-01
M2	2.8222E-07	2.8172E-09	4.2882E-10	M2	1.8406E-08	5.7425E-10	5.0563E-11
P	3.3674E+03	2.3542E+04	4.4008E+04	P	3.9864E+03	2.5558E+04	4.9313E+04
T	1.6038E+02	2.1331E+02	3.0588E+02	T	1.2344E+02	2.5257E+02	4.0155E+02
RHO	9.5747E+03	3.0432E+01	3.8189E+01	RHO	9.1549E+00	2.7198E+01	3.2377E+01
M	5.7172E+02	9.8835E+02	1.3687E+03	M	6.8622E+02	1.1743E+03	1.6709E+03
A	1.7829E+21	2.7849E+01	3.5593E+01	A	2.1569E+01	3.0936E+01	4.1972E+01
S	2.6871E+00	2.7930E+00	3.9098E+00	S	2.8149E+00	2.8992E+00	3.0191E+00
Z	3.3431E+00	3.6267E+00	3.7675E+00	Z	3.5273E+00	3.7206E+00	3.7930E+00
GAME	9.4708E-01	1.0025E+00	1.0995E+00	GAME	1.0684E+00	1.0184E+00	1.1568E+00
U	4.5840E+01	1.5017E+01	1.6219E+01	U	4.9777E+01	1.6740E+01	1.9640E+01

P1 = 5.00E+02 N/SQ-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2004E+03	2.5674E+04	5.0017E+04
T	1.3487E+02	2.6684E+02	4.3519E+02
RHO	8.7545E+00	2.5697E+01	3.0284E+01
M	7.2830E+02	1.2340E+03	1.7722E+03
A	2.3239E+01	3.2359E+01	4.3769E+01
S	2.8531E+00	2.9342E+00	5.0528E+00
Z	3.5575E+00	3.7456E+00	3.7952E+00
GAME	1.1048E+00	1.0477E+00	1.1599E+00
U	5.0951E+01	1.7354E+01	2.0734E+01

SPECIES	MOLE FRACTIONS
E-	4.9402E-01
HE	1.9901E-03
HE+	5.4134E-02
HE++	9.5695E-05
H	1.0041E-02
M+	4.3970E-01
M2	5.8285E-09

P1 = 5.00E+02 N/SQ-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5589E+03	2.4472E+04	4.6256E+04
T	1.0645E+02	2.2620E+02	3.3550E+02
RHO	9.7803E+00	2.9577E+01	3.6458E+01
M	6.0889E+02	1.0499E+03	1.4671E+03
A	1.8864E+01	2.9660E+01	3.7895E+01
S	2.7316E+00	2.8277E+00	2.9472E+00
Z	3.4182E+00	3.6575E+00	3.7816E+00
GAME	9.7798E-01	9.9274E-01	1.1318E+00
U	4.7213E+01	1.5608E+01	1.7313E+01

SPECIES	MOLE FRACTIONS
E-	4.7341E-01
HE	1.2729E-02
HE+	4.5780E-02
HE++	9.5527E-07
H	4.0449E-02
M+	4.2763E-01
M2	1.3170E-07

P1 = 5.00E+02 N/SQ-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7719E+03	2.5128E+04	4.7986E+04
T	1.1412E+02	2.3915E+02	3.6746E+02
RHO	9.4935E+00	2.8470E+01	3.4465E+01
M	6.4703E+02	1.1120E+03	1.5679E+03
A	2.0165E+01	2.8642E+01	3.9995E+01
S	2.7751E+00	2.8637E+00	2.9835E+00
Z	3.4817E+00	3.6905E+00	3.7899E+00
GAME	1.0214E+00	9.9889E-01	1.1488E+00
U	4.8524E+01	1.6171E+01	1.8458E+01

SPECIES	MOLE FRACTIONS
E-	4.8311E-01
HE	7.2509E-03
HE+	5.0189E-02
HE++	3.5957E-06
H	2.6738E-02
M+	4.3291E-01
M2	5.2208E-08

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 1 \text{ kW/m}^2$$

P1 = 1.00E+03 W/50-H, US1 = 4.00E+03 M/SEC				P1 = 1.00E+03 W/50-W, US1 = 7.00E+03 M/SEC				
SPECIES	MOLE FRACTIONS		SPECIES	MOLE FRACTIONS		SPECIES	MOLE FRACTIONS	
	MOVING SHOCK	STANDING SHOCK		REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.257E+01	2.625E+01	P	3.554E+01	1.432E+02	P	3.554E+01	1.432E+02
T	3.175E+00	3.983E+00	T	7.381E+00	9.796E+00	T	7.381E+00	1.121E+01
RHD	3.960E+00	6.609E+00	RHD	5.346E+00	1.448E+01	RHD	5.346E+00	2.196E+01
H	3.246E+00	4.105E+00	H	8.091E+00	1.220E+01	H	8.091E+00	1.637E+01
A	1.773E+00	1.976E+00	A	2.597E+00	2.911E+00	A	2.597E+00	3.143E+00
S	1.663E+00	1.065E+00	S	1.157E+00	1.169E+00	S	1.157E+00	1.156E+00
Z	1.000E+00	1.000E+00	Z	1.022E+00	1.022E+00	Z	1.022E+00	1.059E+00
GAPE	9.910E-01	9.910E-01	GAPE	9.115E-01	8.446E-01	GAPE	9.115E-01	8.446E-01
U	2.457E+00	1.472E+00	U	4.676E+00	1.727E+00	U	4.676E+00	1.533E+00
E-	3.953E-52	2.216E-39	E-	1.293E-14	2.531E-12	E-	1.293E-14	1.619E-10
HE	2.036E-01	2.000E-01	HE	1.995E-01	1.952E-01	HE	1.995E-01	1.888E-01
HE+	3.562E-64	7.162E-57	HE+	4.383E-34	2.235E-20	HE+	4.383E-34	9.714E-26
HE++	0.	0.	HE++	0.	0.	HE++	0.	0.
H	3.952E-10	1.250E-07	H	4.334E-03	4.716E-02	H	4.334E-03	1.114E-01
H+	7.242E-20	7.240E-20	H+	1.293E-16	2.531E-12	H+	1.293E-16	1.619E-01
H2	8.000E-01	9.000E-01	H2	7.961E-01	7.575E-01	H2	7.961E-01	6.956E-01

P1 = 1.00E+03 N/50-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9011E+01	5.2117E+01	1.1549E+02
T	4.4265E+00	5.0026E+00	7.9976E+00
RND	4.4958E+00	8.8271E+00	1.4393E+01
M	4.2641E+00	6.2448E+00	9.5941E+00
A	2.0733E+00	2.3745E+00	2.6913E+00
S	1.0995E+00	1.1003E+00	1.1214E+00
Z	1.0000E+00	1.0001E+00	1.0033E+00
GAME	9.7544E-01	9.5513E-01	9.2744E-01
U	3.1932E+00	1.6258E+00	1.4529E+00

SPECIES	MOLE FRACTIONS
E-	9.1401E-36
ME	2.3010E-01
ME+	6.6435E-55
ME++	0.
H	1.6087E-06
H+	7.2402E-20
H2	8.3003E-01
	9.7767E-22
	1.9998E-01
	1.3031E-46
	0.
	6.5905E-03
	8.3348E-16
	7.0408E-01

P1 = 1.00E+03 N/50-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8757E+01	9.5540E+01	1.7910E+02
T	5.8427E+00	9.0291E+00	9.9224E+00
RND	4.9217E+00	1.1139E+01	1.7836E+01
M	6.1764E+00	9.5367E+00	1.2219E+01
A	2.3625E+00	2.6872E+00	4.9102E+00
S	1.1274E+00	1.1346E+00	1.1574E+00
Z	1.0001E+00	1.0033E+00	1.0023E+00
GAME	9.5522E-01	9.0831E-01	9.4922E-01
U	3.9246E+00	1.7153E+00	1.4970E+00

SPECIES	MOLE FRACTIONS
E-	2.9723E-21
ME	1.9940E-01
ME+	4.2108E-47
ME++	0.
H	1.4732E-04
H+	6.9523E-20
H2	7.9932E-01
	2.6572E-15
	1.9563E-01
	1.0943E-29
	0.
	4.3695E-02
	2.3003E-12
	7.6067E-01

P1 = 1.00E+03 N/50-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2452E+01	2.2773E+02	3.7750E+02
T	9.7300E+00	1.1220E+01	1.2660E+01
RND	5.6304E+00	1.5097E+01	2.7253E+01
M	1.6327E+01	1.6323E+01	2.2043E+01
A	2.7567E+00	3.1474E+00	3.3859E+00
S	1.1864E+00	1.2085E+00	1.2371E+00
Z	1.0124E+00	1.0033E+00	1.0110E+00
GAME	9.5781E-01	9.2055E-01	9.2744E-01
U	5.4664E+00	1.5094E+00	1.5243E+00

SPECIES	MOLE FRACTIONS
E-	1.0000E-13
ME	1.9747E-01
ME+	9.0130E-33
ME++	0.
H	2.5307E-02
H+	1.0000E-13
H2	7.7740E-01
	1.1115E-10
	1.0440E-01
	3.0764E-26
	1.4915E+00
	1.1309E-01
	1.1115E-10
	6.9282E-01
	1.3307E-09
	1.4022E-01
	2.4255E-23
	1.4504E-04
	1.4984E-01
	1.3367E-09
	6.2015E-01

P1 = 1.00E+03 N/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7670E+01	3.4430E+02	5.4597E+02
T	9.7804E+00	1.2481E+01	1.1691E+01
RND	6.8940E+00	2.4093E+01	3.3779E+01
M	1.2877E+01	3.1021E+01	2.6037E+01
A	2.8907E+00	2.3065E+00	3.5627E+00
S	1.2107E+00	1.2405E+00	1.2812E+00
Z	1.0334E+00	1.0110E+00	1.0176E+00
GAME	9.3347E-01	9.2055E-01	9.3189E-01
U	6.2504E+00	1.7019E+00	1.5645E+00

SPECIES	MOLE FRACTIONS
E-	4.2741E-17
ME	1.9940E-01
ME+	2.3604E-26
ME++	0.
H	3.7211E-02
H+	6.2761E-12
H2	7.9932E-01
	4.4721E-09
	1.7003E-01
	3.3503E-03
	1.4765E-04
	2.7044E-01
	1.4721E-09
	9.0527E-04
	5.2040E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+03 N/SQ-M. US1 = 1.00E+04 W/SEC				P1 = 1.30E+03 N/SQ-M. US1 = 1.30E+04 W/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	A	P	T	RHO	A
3.4829E+01	1.0633E+01	7.4931E+00	3.6502E+00	1.4762E+02	1.2719E+01	9.0782E+00	2.6375E+01
1.9704E-01	1.3668E+01	3.0677E+01	2.6317E+01	1.7346E+01	4.6613E+01	4.6314E+00	1.4307E+00
5.3510E-27	1.5730E+01	2.6317E+01	3.6502E+00	4.6576E+01	4.6314E+00	1.4307E+00	1.4307E+00
6.6	3.6502E+00	3.6502E+00	1.2541E+00	5.4907E+01	5.4907E+01	5.4907E+01	5.4907E+01
1.2344E-01	1.2487E+00	1.2487E+00	1.2487E+00	5.1666E+00	5.1666E+00	5.1666E+00	5.1666E+00
3.0799E-01	1.0655E+00	1.0655E+00	1.0655E+00	1.4831E+00	1.4831E+00	1.4831E+00	1.4831E+00
1.0272E-01	8.2072E-01	8.2072E-01	8.2072E-01	1.4307E+00	1.4307E+00	1.4307E+00	1.4307E+00
7.1155E+00	7.1155E+00	7.1155E+00	7.1155E+00	8.6502E-01	8.6502E-01	8.6502E-01	8.6502E-01
				1.9993E+00	1.9993E+00	1.9993E+00	1.9993E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
F-	4.9165E-11	1.0270E-09	5.3731E-09	E-	4.2635E-09	7.3029E-07	3.6350E-06
HE	1.9704E-01	1.6923E-01	1.5948E-01	HE	1.6676E-01	1.3586E-01	1.2962E-01
HE+	5.3510E-27	2.9153E-21	1.5106E-19	HE+	1.9879E-01	6.6792E-17	3.4052E-15
HE++	6.6	4.9165E-77	7.7167E-72	HE++	1.4831E-01	1.4831E-01	7.4425E-56
H	1.2344E-01	3.0799E-01	4.0519E-01	H	6.6792E-01	6.6792E-01	7.3376E-01
H+	4.9165E-11	1.0272E-09	5.3731E-08	H+	4.2635E-09	7.3029E-07	3.6350E-06
H2	6.8873E-01	5.2281E-01	4.3534E-01	H2	5.0646E-01	2.5971E-01	1.6661E-01

P1 = 1.00E+03 N/50-M, US1 = 1.40F+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7217E+02	1.4331E+03	2.0958E+03
T	1.3358E+01	1.4805E+01	2.1670E+01
RHO	1.0272E+01	4.9997E+01	5.8686E+01
H	3.0117E+01	5.1055E+01	6.4223E+01
A	3.7180E+02	5.3894E+02	5.7849E+02
S	1.3952E+00	1.4799E+00	1.5373E+00
Z	1.2543E+00	1.5243E+00	1.5490E+00
GAME	8.2502E-01	8.8576E-01	9.3706E-01
U	1.0394E+01	2.1339E+00	2.2320E+00

SPECIES	MOLE FRACTIONS
E-	1.2473E-08
HE	1.5039E-01
HE+	1.2445E-21
HE++	1.3890E-79
H	4.0623E-01
H+	1.2473E-08
H2	4.3442E-01

P1 = 1.00E+03 N/50-M, US1 = 1.50F+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9842E+02	1.7278E+03	2.3714E+03
T	1.3997E+01	2.0639E+01	2.5523E+01
RHO	1.0784E+01	5.1806E+01	5.7953E+01
H	3.4454E+01	6.1021E+01	7.4914E+01
A	3.9130E+02	5.5339E+02	6.7429E+02
S	1.4239E+00	1.5299E+00	1.5917E+00
Z	1.3153E+00	1.6183E+00	1.7386E+00
GAME	9.3047E-01	3.1924E-01	1.0247E+00
U	1.1184E+01	2.3203E+00	2.5542E+00

SPECIES	MOLE FRACTIONS
E-	3.2799E-09
HE	1.5276E-01
HE+	1.0673E-20
HE++	4.7247E-75
H	4.7624E-01
H+	3.2799E-09
H2	3.0842E-01

P1 = 1.00E+03 N/50-M, US1 = 1.10F+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0351E+02	6.8283E+02	1.0133E+03
T	1.1391E+01	1.4943E+01	1.6226E+01
RHO	8.2680E+00	3.6603E+01	4.6539E+01
H	1.0892E+01	7.2199E+01	3.9959E+01
A	3.2063E+00	3.9569E+00	4.3072E+00
S	1.2927E+00	1.3348E+00	1.3780E+00
Z	1.1043E+00	1.2569E+00	1.3419E+00
GAME	9.1782E-01	8.3929E-01	8.5201E-01
U	7.9455E+00	1.7962E+00	1.7148E+00

SPECIES	MOLE FRACTIONS
E-	2.0887E-10
HE	1.8111E-01
HE+	2.6576E-25
HE++	6.9944E-92
H	1.9889E-01
H+	2.9871E-10
H2	6.3300E-01

P1 = 1.00E+03 N/50-M, US1 = 1.20E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2487E+02	9.0430E+02	1.3241E+03
T	1.2063E+01	1.6049E+01	1.7651E+01
RHO	9.0072E+00	4.2045E+01	5.2097E+01
H	2.2311E+01	3.9619E+01	4.6537E+01
A	3.3684E+00	4.2765E+00	4.6585E+00
S	1.3195E+00	1.3921E+00	1.4299E+00
Z	1.1400E+00	1.3401E+00	1.4391E+00
GAME	9.1935E-01	9.5030E-01	9.6950E-01
U	9.7660E+00	1.3784E+00	1.8320E+00

SPECIES	MOLE FRACTIONS
E-	1.2621E-09
HE	1.7437E-01
HE+	6.3634E-24
HE++	5.8956E-87
H	2.5933E-01
H+	1.2621E-09
H2	5.6641E-01

Table II. - Continued

$$P_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+03 N/SQ-M, US1 = 1.60E+04 M/SFC				P1 = 1.00E+03 N/SQ-M, US1 = 1.90E+04 M/SFC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	A	P	T	RHO	A
2.265E+02	2.261E+03	3.127E+03	3.127E+03	3.127E+03	3.127E+03	3.127E+03	3.127E+03
1.466E+01	2.313E+01	3.239E+01	3.239E+01	3.239E+01	3.239E+01	3.239E+01	3.239E+01
1.140E+01	5.151E+01	5.405E+01	5.405E+01	5.405E+01	5.405E+01	5.405E+01	5.405E+01
3.508E+01	6.941E+01	9.755E+01	9.755E+01	9.755E+01	9.755E+01	9.755E+01	9.755E+01
4.115E+00	6.193E+00	7.942E+00	7.942E+00	7.942E+00	7.942E+00	7.942E+00	7.942E+00
1.477E+00	1.576E+00	1.643E+00	1.643E+00	1.643E+00	1.643E+00	1.643E+00	1.643E+00
1.381E+00	1.726E+00	1.735E+00	1.735E+00	1.735E+00	1.735E+00	1.735E+00	1.735E+00
8.372E-01	9.752E-01	1.091E+00	1.091E+00	1.091E+00	1.091E+00	1.091E+00	1.091E+00
1.197E+01	2.604E+00	3.126E+00	3.126E+00	3.126E+00	3.126E+00	3.126E+00	3.126E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	8.0926E-08	3.9746E-05	1.2973E-03	E-	1.2393E-06	1.8589E-03	3.5463E-02
HE	1.4432E-01	1.1747E-01	1.1201E-01	HE	1.2545E-01	1.1799E-01	1.0730E-01
HE+	8.8714E-20	1.0243E-12	6.1352E-09	HE+	5.4723E-17	1.3354E-07	2.2308E-05
HE++	3.3588E-72	2.1196E-46	2.9758E-32	HE++	2.8216E-67	1.6018E-27	2.3479E-19
H	5.5082E-01	8.2520E-01	8.7605E-01	H	7.4514E-01	8.7557E-01	8.2044E-01
H+	3.3926E-09	3.9746E-05	1.2973E-03	H+	1.2393E-06	4.9589E-03	3.5441E-02
H2	3.0426E-01	5.7251E-02	9.3539E-03	H2	1.2917E-01	3.7263E-03	1.3352E-03

P1 = 1.00E+03 M/50-M, US1 = 1.73E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.563E+02	2.344E+03	3.716E+03
T	1.535E+01	2.689E+01	4.011E+01
RHO	1.151E+01	4.963E+01	5.120E+01
M	4.401E+01	7.812E+01	1.010E+02
A	4.344E+00	7.082E+00	9.653E+00
S	1.520E+00	1.620E+00	1.686E+00
Z	1.448E+00	1.763E+00	1.907E+00
GAME	8.461E+01	1.059E+00	1.035E+00
U	1.275E+01	3.019E+00	3.693E+00

SPECIES	WILE FRACTIONS
E-	1.9539E-07
HE	1.3925E-01
ME+	7.2557E-15
HE++	3.9966E-59
M	6.1945E-01
H+	1.9529E-07
H2	2.4246E-01

P1 = 1.00E+03 M/50-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.876E+02	2.553E+03	4.284E+03
T	1.615E+01	3.198E+01	4.635E+01
RHO	1.171E+01	4.467E+01	5.047E+01
M	4.923E+01	9.704E+01	1.144E+02
A	4.531E+00	7.925E+00	9.137E+00
S	1.563E+00	1.458E+00	1.722E+00
Z	1.326E+00	1.717E+00	1.932E+00
GAME	8.581E+01	1.025E+00	9.771E-01
U	1.352E+01	3.545E+00	4.027E+00

SPECIES	WILE FRACTIONS
E-	4.704E-07
HE	1.311E-01
ME+	5.602E-13
HE++	2.014E-55
M	6.842E-01
H+	4.273E-07
H2	1.630E-01

P1 = 1.00E+03 M/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.548E+02	2.997E+03	5.278E+03
T	1.926E+01	4.237E+01	5.544E+01
RHO	1.166E+01	3.890E+01	5.001E+01
M	6.354E+01	1.261E+02	1.412E+02
A	5.246E+00	9.777E+00	9.904E+00
S	1.654E+00	1.725E+00	1.755E+00
Z	1.665E+00	1.818E+00	1.900E+00
GAME	9.052E-01	9.999E-01	9.203E-01
U	1.502E+01	4.563E+00	4.577E+00

SPECIES	WILE FRACTIONS
E-	3.472E-06
HE	1.201E-01
ME+	6.971E-16
HE++	9.201E-56
M	7.094E-01
H+	3.472E-06
H2	9.130E-02

P1 = 1.00E+03 M/50-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.869E+02	3.170E+03	5.597E+03
T	1.966E+01	4.604E+01	5.903E+01
RHO	1.129E+01	3.652E+01	4.882E+01
M	6.621E+01	1.164E+02	1.458E+02
A	5.754E+00	9.086E+00	1.026E+01
S	1.692E+00	1.754E+00	1.816E+00
Z	1.729E+00	1.843E+00	1.936E+00
GAME	9.037E-01	9.618E-01	9.107E-01
U	1.272E+01	4.906E+00	4.725E+00

SPECIES	WILE FRACTIONS
E-	1.293E-05
HE	1.152E-01
ME+	1.707E-14
HE++	5.995E-53
M	9.423E-01
H+	1.293E-05
H2	4.134E-02

Table II. - Continued

$$P_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+03 N/SQ-M, US1 = 2.20E+04 M/SEC				P1 = 1.00E+03 N/SQ-M, US1 = 2.53E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
-----				-----			
E-	6.37E-05	3.73E-02	9.19E-02	E-	5.95E-03	8.72E-02	1.49E-01
HE	1.12E-01	1.07E-01	1.00E-01	HE	1.13E-01	1.31E-01	9.36E-02
HE+	1.16E-12	1.95E-25	2.59E-04	HE+	6.54E-08	1.62E-04	9.17E-04
HE++	2.45E-46	3.37E-20	1.34E-15	HE++	4.31E-20	1.77E-16	1.19E-13
H	4.71E-01	9.17E-01	7.14E-01	H	8.76E-01	7.23E-01	6.07E-01
H+	6.67E-05	3.73E-02	9.17E-02	H+	5.99E-03	9.71E-02	1.48E-01
H2	1.57E-02	9.77E-04	6.33E-04	H2	1.06E-03	4.45E-04	3.94E-04
-----				-----			
P	4.20E+02	3.24E+03	5.69E+03	P	5.34E+02	3.37E+03	5.64E+03
T	2.25E+01	5.21E+01	6.19E+01	T	3.47E+01	5.86E+01	6.48E+01
RHO	1.05E+01	3.46E+01	4.63E+01	RHO	8.49E+00	2.92E+01	3.87E+01
H	7.29E+01	1.26E+02	1.67E+02	H	9.34E+01	1.62E+02	2.07E+02
A	6.50E+00	3.77E+00	1.05E+01	A	9.03E+00	1.02E+01	1.48E+01
S	1.73E+00	1.73E+00	1.94E+00	S	1.82E+00	1.87E+00	1.94E+00
Z	1.77E+00	1.80E+00	1.91E+00	Z	1.83E+00	1.97E+00	2.11E+00
GAME	1.92E+01	9.37E+01	9.13E+01	GAME	1.02E+00	9.06E-01	9.34E-01
U	1.65E+01	4.99E+00	4.81E+00	U	1.91E+01	5.26E+00	5.07E+00

P1 = 1.00E+03 N/SQ-M, US1 = 2.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.603E+02	3.249E+03	5.610E+03
T	2.649E+01	5.312E+01	6.433E+01
RMD	6.945E+00	3.218E+01	4.304E+01
H	7.949E+01	1.375E+02	1.936E+02
A	7.253E+00	9.651E+00	1.088E+01
S	1.705E+00	1.919E+00	1.991E+00
Z	1.791E+00	1.898E+00	2.023E+00
GAME	1.109E+00	9.224E+01	9.093E+01
U	1.095E+01	5.102E+00	4.920E+00

SPECIES	MULE FRACTIONS
E-	4.315E-04
HE	1.117E-01
HE+	1.075E-01
HE++	2.871E-01
H	5.828E-01
H+	4.352E-04
H2	5.231E-03

P1 = 1.00E+03 N/SQ-M, US1 = 2.43E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.961E+02	3.272E+03	5.561E+03
T	3.072E+01	5.591E+01	6.656E+01
RMD	9.961E+00	3.027E+01	4.345E+01
H	4.631E+01	1.485E+02	1.934E+02
A	7.747E+00	0.931E+00	1.117E+01
S	1.796E+00	1.350E+00	1.912E+00
Z	1.795E+00	1.634E+00	2.047E+00
GAME	1.094E+00	9.120E+01	9.047E+01
U	1.752E+01	5.183E+00	4.999E+00

SPECIES	MULE FRACTIONS
E-	1.954E-03
HE	1.111E-01
HE+	4.552E-04
HE++	2.421E-03
H	2.421E-03
H+	1.954E-03
H2	2.421E-03

P1 = 1.00E+03 N/SQ-M, US1 = 2.63E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.756E+02	3.547E+03	5.878E+03
T	3.035E+01	6.106E+01	7.132E+01
RMD	8.233E+00	2.887E+01	3.807E+01
H	1.039E+02	1.727E+02	2.220E+02
A	8.257E+00	1.053E+01	1.182E+01
S	1.849E+00	1.908E+00	1.972E+00
Z	1.822E+00	2.012E+00	2.164E+00
GAME	9.752E+01	5.031E+01	9.052E+01
U	1.077E+01	5.351E+00	5.174E+00

SPECIES	MULE FRACTIONS
E-	1.301E-02
HE	1.057E+01
HE+	2.758E-04
HE++	4.473E-26
H	6.035E-01
H+	1.301E-02
H2	0.592E-04

P1 = 1.00E+03 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.156E+02	3.756E+03	6.233E+03
T	4.139E+01	6.305E+01	7.391E+01
RMD	9.134E+00	2.000E+01	3.802E+01
H	1.086E+02	1.861E+02	2.395E+02
A	8.467E+00	1.096E+01	1.218E+01
S	1.873E+00	1.933E+00	2.000E+00
Z	1.842E+00	2.056E+00	2.218E+00
GAME	9.412E+01	5.013E+01	9.057E+01
U	1.545E+01	5.452E+00	5.252E+00

SPECIES	MULE FRACTIONS
E-	2.247E-02
HE	1.096E-01
HE+	4.473E-26
HE++	6.374E-24
H	6.451E-01
H+	2.247E-02
H2	4.077E-04

Table II. - Continued

$$p_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+03 N/50-M, US1 = 2.90E+04 W/SEC				P1 = 1.00E+03 N/50-M, US1 = 3.20E+04 W/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
	REFLECTED SHOCK							
E-	3.3957E-02	1.4428E-01	2.0356E-01	2.0345E-01	2.8424E-01	9.0049E-02	2.0345E-01	2.8424E-01
HE	1.0737E-01	9.4420E-02	8.5305E-02	8.5305E-02	7.1196E-02	1.0015E-01	8.5305E-02	7.1196E-02
HE+	5.3583E-06	6.8934E-04	2.6691E-03	2.6691E-03	8.3430E-03	7.3921E-05	2.6691E-03	8.3430E-03
HE++	2.8967E-22	3.4272E-14	5.9267E-12	5.9267E-12	4.0544E-10	3.9375E-14	5.9267E-12	4.0544E-10
H	9.2428E-01	6.1677E-01	4.9139E-01	4.9139E-01	3.6325E-01	7.1949E-01	4.9139E-01	3.6325E-01
H+	3.3991E-02	1.4359E-01	2.0391E-01	2.0391E-01	2.7599E-01	8.9744E-02	2.0391E-01	2.7599E-01
H2	3.5672E-04	2.5711E-04	1.7444E-04	1.7444E-04	9.4571E-05	1.6942E-04	1.7444E-04	9.4571E-05

SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
	REFLECTED SHOCK							
P	8.7355E+02	5.6293E+03	9.3211E+03	8.7355E+02	5.6293E+03	9.3211E+03	8.7355E+02	5.6293E+03
T	5.2547E+01	7.6500E+01	8.7541E+01	5.2547E+01	7.6500E+01	8.7541E+01	5.2547E+01	7.6500E+01
RHO	8.4304E+00	3.8297E+01	4.3796E+01	8.4304E+00	3.8297E+01	4.3796E+01	8.4304E+00	3.8297E+01
H	1.5244E+02	2.5577E+02	3.3353E+02	1.5244E+02	2.5577E+02	3.3353E+02	1.5244E+02	2.5577E+02
A	9.5901E+00	1.2567E+01	1.4200E+01	9.5901E+00	1.2567E+01	1.4200E+01	9.5901E+00	1.2567E+01
S	1.5485E+00	2.0292E+00	2.1415E+00	1.5485E+00	2.0292E+00	2.1415E+00	1.5485E+00	2.0292E+00
Z	1.9778E+00	2.2738E+00	2.3965E+00	1.9778E+00	2.2738E+00	2.3965E+00	1.9778E+00	2.2738E+00
GAME	9.8601E-01	9.0673E-01	9.1265E-01	9.8601E-01	9.0673E-01	9.1265E-01	9.8601E-01	9.0673E-01
U	2.3104E+01	5.4203E+00	6.0140E+00	2.3104E+01	5.4203E+00	6.0140E+00	2.3104E+01	5.4203E+00

P1 = 1.00E+03 N/50-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.897E+02	6.873E+02	1.0461E+04
T	5.630E+01	8.165E+01	9.394E+01
RHO	4.620E+00	3.327E+01	4.216E+02
H	1.723E+02	2.914E+02	3.771E+02
A	1.006E+01	1.330E+01	1.529E+01
S	2.029E+00	2.114E+00	2.197E+00
Z	2.067E+00	2.419E+00	2.641E+00
GAME	4.921E+01	9.075E+01	9.163E+01
U	2.467E+01	6.397E+00	6.346E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.256E-01	2.561E-01	3.185E-01
HE	9.754E-02	7.762E-02	4.256E-02
HE+	1.736E-04	5.421E-03	1.316E-02
HE++	9.033E-17	6.571E-11	3.274E-09
H	6.613E-01	4.009E-01	3.003E-01
H+	1.234E-01	2.511E-01	3.035E-01
H2	1.235E-04	9.746E-06	5.757E-05

P1 = 1.00E+03 N/50-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.112E+03	7.594E+02	1.2047E+04
T	5.941E+01	8.687E+01	1.0025E+02
RHO	4.631E+00	3.453E+01	4.339E+01
H	1.928E+02	3.357E+02	4.230E+02
A	1.053E+01	1.415E+01	1.600E+01
S	2.074E+00	2.162E+00	2.254E+00
Z	2.121E+00	2.534E+00	2.759E+00
GAME	4.313E+01	7.107E+01	9.220E+01
U	2.623E+01	6.737E+00	6.706E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.515E-01	2.996E-01	3.501E-01
HE	9.371E-02	7.373E-02	5.294E-02
HE+	3.544E-04	8.233E-03	1.026E-02
HE++	1.218E-15	4.255E-10	1.921E-09
H	6.621E-01	3.995E-01	2.407E-01
H+	1.517E-01	2.514E-01	3.009E-01
H2	5.643E-05	6.632E-05	3.819E-05

P1 = 1.00E+03 N/50-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.149E+02	4.632E+03	7.180E+03
T	4.644E+01	6.880E+01	7.935E+01
RHO	8.153E+00	2.993E+01	3.880E+01
H	1.252E+02	2.151E+02	2.739E+02
A	8.908E+00	1.155E+01	1.296E+01
S	1.919E+00	1.985E+00	2.374E+00
Z	1.887E+00	2.151E+00	2.331E+00
GAME	9.051E-01	9.012E-01	9.012E-01
U	2.000E+01	5.690E+00	5.561E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.680E-01	1.636E-01	2.592E-01
HE	1.050E-01	9.192E-02	8.213E-02
HE+	1.241E-05	1.028E-03	3.638E-03
HE++	5.939E-21	1.531E-13	1.963E-11
H	8.001E-01	5.805E-01	4.612E-01
H+	4.679E-02	1.626E-01	2.245E-01
H2	2.859E-04	2.183E-04	1.459E-04

P1 = 1.00E+03 N/50-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.658E+02	4.935E+03	7.745E+03
T	4.842E+01	7.137E+01	8.216E+01
RHO	8.222E+00	3.077E+01	3.942E+01
H	1.339E+02	2.305E+02	2.930E+02
A	9.135E+00	1.153E+01	1.376E+01
S	1.941E+00	2.311E+00	2.305E+00
Z	1.915E+00	2.302E+00	2.391E+00
GAME	9.959E-01	9.019E-01	9.019E-01
U	2.165E+01	5.815E+00	5.739E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.063E-02	1.920E-01	2.474E-01
HE	1.043E-01	8.532E-02	7.874E-02
HE+	2.473E-05	1.495E-03	4.992E-03
HE++	7.287E-20	5.902E-13	6.092E-11
H	7.741E+00	5.466E-01	4.263E-01
H+	6.054E-02	1.943E-01	2.425E-01
H2	2.360E-04	1.360E-04	1.222E-04

Table II. - Continued

$$P_1 = 1 \text{ kN/m}^2$$

P1 = 1.02E+03 N/SQ-M, US1 = 3.93E+04 M/SEC					P1 = 1.06E+03 N/SQ-M, US1 = 4.40E+04 M/SEC				
MOVING SHOCK					MOVING SHOCK				
STANDING SHOCK					STANDING SHOCK				
REFLECTED SHOCK					REFLECTED SHOCK				
SPECIES					SPECIES				
MOLE FRACTIONS					MOLE FRACTIONS				
E-	1.9213E-01	3.2069E-01	3.7909E-01		E-	2.69E9E-01	3.9934E-01	4.5043E-01	
HE	9.0234E-02	6.2589E-02	4.2746E-02		HE	7.8400E-02	3.6270E-02	1.5392E-02	
HE+	6.4674E-04	1.2437E-02	2.6247E-02		HE+	2.911E-03	3.0491E-02	4.5674E-02	
HE++	1.1455E-14	2.3113E-09	9.8712E-09		HE++	2.6653E-12	1.9267E-07	8.0563E-06	
H	5.4544E-01	2.9540E-01	1.9936E-01		H	3.943E-01	1.6531E-01	8.3759E-02	
H+	1.8148E-01	3.2818E-01	3.5284E-01		H+	2.6578E-01	3.6899E-01	4.0474E-01	
H2	7.3334E-05	4.9570E-05	2.4390E-05		H2	3.1737E-05	1.4203E-05	3.8547E-06	

P1 = 1.00E+03 N/SQ-M, JSI = 4.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.381E+03	9.845E+03	1.561E+04
T	6.560E+01	9.766E+01	1.144E+02
RHO	9.234E+00	3.644E+01	4.508E+01
M	2.381E+02	4.166E+02	5.267E+02
A	1.151E+01	1.575E+01	1.839E+01
S	2.163E+00	4.269E+00	2.367E+00
Z	2.294E+00	2.765E+00	3.267E+00
GAME	8.843E-01	9.191E-01	9.457E-01
U	2.930E+01	7.336E+00	7.525E+00

SPECIES ----- MULE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.1199E-01	3.492E-01	4.0530E-01
HE	9.645E-02	5.446E-02	3.2671E-02
ME+	1.107E-03	1.784E-02	3.340E-02
HE++	8.361E-14	1.111E-09	3.930E-07
H	4.895E-01	2.469E-01	1.567E-01
M+	2.134E-01	3.314E-01	3.719E-01
M2	5.615E-05	3.329E-05	1.476E-05

P1 = 1.00E+03 N/SQ-M, JSI = 4.20E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.525E+03	1.165E+04	1.7591E+04
T	6.875E+01	1.034E+02	1.230E+02
RHO	9.357E+00	3.710E+01	4.529E+01
M	2.624E+02	4.601E+02	5.832E+02
A	1.202E+01	1.661E+01	1.938E+01
S	2.201E+00	2.321E+00	2.424E+00
Z	2.371E+00	2.882E+00	3.154E+00
GAME	8.667E-01	9.263E-01	9.680E-01
U	3.382E+01	7.770E+00	8.019E+00

SPECIES ----- MULE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.438E-01	3.754E-01	4.293E-01
HE	9.255E-02	4.542E-02	2.327E-02
ME+	1.801E-03	2.397E-02	4.314E-02
HE++	5.065E-13	4.716E-09	1.738E-06
H	4.356E-01	2.366E-01	1.181E-01
M+	2.340E-01	3.514E-01	3.891E-01
M2	4.283E-05	2.218E-05	8.087E-06

P1 = 1.00E+03 N/SQ-M, JSI = 4.60E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.934E+03	1.3571E+04	2.1962E+04
T	7.493E+01	1.162E+02	1.470E+02
RHO	5.591E+00	3.759E+01	4.416E+01
M	3.149E+02	5.529E+02	7.107E+02
A	1.307E+01	1.955E+01	2.274E+01
S	2.300E+00	2.423E+00	2.536E+00
Z	2.553E+00	3.1071E+00	3.393E+00
GAME	8.531E-01	9.530E-01	1.240E+00
U	3.395E+01	9.641E+00	9.390E+00

SPECIES ----- MULE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.949E-01	4.207E-01	4.675E-01
HE	7.489E-02	2.770E-02	3.635E-02
ME+	4.255E-03	3.666E-02	4.948E-02
HE++	1.256E-11	6.614E-07	4.012E-05
H	3.355E-01	1.334E-01	5.527E-02
M+	2.932E-01	3.845E-01	4.193E-01
M2	2.335E-05	8.553E-05	1.557E-06

P1 = 1.00E+03 N/SQ-M, JSI = 4.80E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.999E+03	1.484E+04	2.441E+04
T	7.915E+01	1.239E+02	1.649E+02
RHO	9.673E+00	3.727E+01	4.271E+01
M	3.423E+02	6.219E+02	7.934E+02
A	1.361E+01	1.970E+01	2.484E+01
S	2.346E+00	2.473E+00	2.592E+00
Z	2.646E+00	3.214E+00	3.465E+00
GAME	9.963E-01	9.753E-01	1.379E+00
U	3.536E+01	9.172E+00	1.036E+01

SPECIES ----- MULE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.193E-01	4.430E-01	4.936E-01
HE	6.931E-02	1.994E-02	5.837E-03
ME+	6.244E-03	4.223E-02	5.163E-02
HE++	5.420E-11	2.399E-06	2.290E-04
H	2.931E-01	1.030E-01	3.309E-02
M+	3.136E-01	3.977E-01	2.856E-01
M2	1.695E-05	4.927E-06	5.365E-07

Table II. - Continued

$$P_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+03 N/50-M, US1 = 5.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1715E+03	1.6378E+04	2.7001E+04
T	8.1374E+01	1.3287E+02	1.8617E+02
RND	5.7341E+01	3.6525E+01	4.1171E+01
H	3.7198E+02	6.5244E+02	8.6389E+02
A	1.4165E+01	2.4333E+01	2.6723E+01
S	2.3925E+00	2.5229E+00	2.6434E+00
Z	2.7413E+00	3.3127E+00	3.5227E+00
GAME	8.9951E-01	1.3048E+00	1.3886E+00
U	3.0864E+01	9.8233E+00	1.1421E+01
SPECIES			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.7253E+03	1.9491E+04	3.4795E+04
ME	9.2041E+01	1.7331E+02	2.4702E+02
HE+	9.7937E+00	3.2623E+01	3.8694E+01
HE++	4.6642E+02	8.1148E+02	1.102PE+03
H	1.5937E+01	2.5542E+01	3.0134E+01
A	2.5313E+00	2.6555E+00	2.7732E+00
S	3.0231E+00	3.5081E+00	3.6417E+00
Z	9.1242E-01	1.3919E+00	1.5094E+00
GAME	4.1317E+01	1.2392E+01	1.4016E+01
SPECIES			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.0457E-01	4.4690E-01	5.0573E-01
ME	4.4275E-02	4.0710E-03	1.1889E-03
HE+	2.1844E-02	5.2473E-02	3.4717E-02
HE++	9.9411E-09	4.6655E-04	1.9313E-02
H	1.4659E-01	2.2527E-02	6.3638E-03
A	3.8279E-01	4.3350E-01	4.3299E-01
S	3.7574E-06	1.7844E-07	1.4404E-08

PI = 1.00E+03 N/SEC, JS1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.349E+03	1.7297E+04	2.964E+04
T	9.476E+01	1.4337E+01	2.0954E+02
RMC	9.773E+00	3.551E+01	3.9491E+01
M	4.0225E+02	7.0436E+02	9.6138E+02
A	1.4733E+01	2.2496E+01	2.400E+01
S	2.4390E+03	2.5692E+00	2.6910E+00
Z	2.6355E+03	1.395E+00	3.564E+00
GAME	9.0291E+01	1.0397E+00	1.3552E+00
U	3.8359E+01	1.0553E+01	1.2454E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	3.6533E-01
HE	5.9118E-02
HE+	1.2416E-02
HE++	8.2065E-10
H	2.1128E-01
H+	3.5288E-01
H2	8.3541E-06

PI = 1.00E+03 N/SEC, JS1 = 5.47E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.534E+03	1.8411E+04	3.2240E+04
T	8.831E+01	1.5562E+02	2.2970E+02
RMC	9.793E+00	3.6122E+01	3.9134E+01
M	4.337E+02	7.5727E+02	1.0216E+03
A	1.532E+01	2.4644E+01	2.971E+01
S	2.4851E+03	2.613E+00	2.733E+00
Z	2.930E+00	1.4537E+00	3.6024E+00
GAME	5.269E+01	1.0719E+00	1.3204E+00
U	3.584E+01	1.1444E+01	1.7291E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	3.8460E-01
HE	5.015E-02
HE+	1.675E-02
HE++	2.024E-10
H	4.77E-01
H+	3.652E-01
H2	5.573E-06

PI = 1.00E+03 N/SEC, JS1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9224E+03	2.0472E+04	3.7326E+04
T	9.612E+01	1.8624E+02	2.8554E+02
RMC	9.7631E+00	3.1029E+01	3.8184E+01
M	5.002E+02	9.6649E+02	1.1962E+03
A	1.6594E+01	2.6764E+01	3.1556E+01
S	4.576E+00	2.6063E+00	2.9115E+00
Z	3.114E+00	1.5479E+00	3.6812E+00
GAME	9.208E+01	1.085E+00	1.019E+00
U	4.277E+01	1.3455E+01	1.4708E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	4.717E-01
HE	3.6813E-02
HE+	2.7013E-02
HE++	5.267E-10
H	1.5451E-01
H+	3.9551E-01
H2	2.6331E-06

PI = 1.00E+03 N/SEC, JS1 = 6.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.125E+03	2.1431E+04	3.9791E+04
T	1.036E+02	2.0174E+02	2.859E+02
RMC	9.074E+00	2.9753E+01	3.7426E+01
M	5.3517E+02	9.231E+02	1.2733E+03
A	1.7337E+01	2.7594E+01	3.3314E+01
S	2.622E+00	2.733E+00	2.4497E+00
Z	3.233E+00	1.573E+00	3.717E+00
GAME	6.324E+01	1.0567E+00	1.0439E+00
U	4.421E+01	1.4520E+01	1.5464E+01

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	4.3919E-01
HE	2.87E-02
HE+	3.56E-02
HE++	1.372E-10
H	9.539E-02
H+	4.044E-01
H2	1.4577E-06

Table II. - Continued

$$P_1 = 1 \text{ KN/m}^2$$

P1 = 1.00E+03 N/50-M, IIS1 = 6.83E+04 W/SEC			
MOVING SHOCK			
P	STANDING SHOCK	REFLECTED SHOCK	REFLECTED SHOCK
T	3.9754E+03	2.4703E+04	4.8065E+04
W	1.2733E+02	2.5755E+02	4.0132E+02
H	4.9523E+00	2.592E+01	3.1654E+01
M	6.5595E+02	1.1693E+03	1.6654E+03
A	2.1583E+01	3.1344E+01	4.1805E+01
S	2.7921E+03	2.8747E+03	2.9955E+03
Z	3.4875E+00	3.6516E+00	3.7865E+00
GAME	1.649JE+0C	1.0136E+00	1.1509E+00
U	4.5635E+01	1.7088E+01	1.9403E+01
SPECIES			
MOLE FRACTIONS			
E-	4.9397E-01	5.1241E-01	5.2463E-01
HE	5.6457E-03	5.2688E-04	1.8791E-03
HE+	5.1692E-02	2.4561E-02	2.3590E-03
HE++	1.6943E-05	2.9389E-02	5.0442E-02
H	2.6634E-02	3.7504E-03	1.1713E-03
H+	4.3215E-01	4.2567E-01	4.2138E-01
H2	8.6696E-09	3.3613E-09	3.7799E-10

P1 = 1.00E+03 N/50-M, JCI = 4.23E+04 W/SEC

MOVING SHOCK			
P	STANDING SHOCK	REFLECTED SHOCK	REFLECTED SHOCK
T	3.9754E+03	2.4703E+04	4.8065E+04
W	1.2733E+02	2.5755E+02	4.0132E+02
H	4.9523E+00	2.592E+01	3.1654E+01
M	6.5595E+02	1.1693E+03	1.6654E+03
A	2.1583E+01	3.1344E+01	4.1805E+01
S	2.7921E+03	2.8747E+03	2.9955E+03
Z	3.4875E+00	3.6516E+00	3.7865E+00
GAME	1.649JE+0C	1.0136E+00	1.1509E+00
U	4.5635E+01	1.7088E+01	1.9403E+01
SPECIES			
MOLE FRACTIONS			
E-	4.9397E-01	5.1241E-01	5.2463E-01
HE	5.6457E-03	5.2688E-04	1.8791E-03
HE+	5.1692E-02	2.4561E-02	2.3590E-03
HE++	1.6943E-05	2.9389E-02	5.0442E-02
H	2.6634E-02	3.7504E-03	1.1713E-03
H+	4.3215E-01	4.2567E-01	4.2138E-01
H2	8.6696E-09	3.3613E-09	3.7799E-10

P1 = 1.00E+03 N/SEC, US1 = 7.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1922E+03	2.5020E+04	4.9162E+04
T	1.3779E+02	2.7144E+02	4.3495E+02
RHC	8.6245E+00	2.4777E+01	2.9919E+01
H	7.2607E+02	1.2307E+03	1.7682E+03
A	2.2974E+01	3.2306E+01	4.3676E+01
S	2.8302E+00	2.9791E+00	3.0299E+00
Z	3.5278E+00	3.7196E+00	3.7926E+00
GA ME	1.0859E+00	1.0335E+00	1.1570E+00
U	5.0451E+01	1.7708E+01	2.0709E+01

SPECIES	MOLE FRACTIONS
E-	4.9970E-01
HE	3.2934E-03
HE+	5.3330E-02
HE++	6.9915E-05
H	1.7251E-02
H+	4.3029E-01
H2	3.2914E-09
	5.1630E-01
	3.2904E-04
	1.7954E-02
	3.5484E-02
	3.0341E-03
	4.2715E-01
	2.0392E-09
	5.2515E-01
	8.7396E-06
	1.5667E-03
	5.1186E-02
	8.9349E-04
	4.2121E-01
	2.3235E-10

P1 = 1.00E+03 N/SEC, US1 = 5.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5444E+03	2.5340E+04	4.4536E+04
T	1.1151E+02	2.3045E+02	3.3730E+02
RHC	9.4493E+00	2.7924E+01	3.5794E+01
H	6.0841E+02	1.2433E+03	1.4622E+03
A	1.9127E+01	2.9914E+01	3.7623E+01
S	2.7394E+00	2.9042E+00	2.9730E+00
Z	3.4411E+00	3.6292E+00	3.7676E+00
GA ME	9.7515E-01	1.0371E+00	1.1146E+00
U	4.7327E+01	1.5921E+01	1.7355E+01

SPECIES	MOLE FRACTIONS
E-	5.0389E-01
HE	1.1314E-03
HE+	3.6718E-02
HE++	1.4942E-05
H	1.7421E-02
H+	5.3103E-03
H2	4.3509E-01
	5.2216E-01
	9.9336E-05
	6.4298E-03
	4.6545E-02
	2.1415E-03
	4.2260E-01
	1.4143E-09

P1 = 1.00E+03 N/SEC, US1 = 6.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7593E+03	2.4134E+04	4.6501E+04
T	1.1903E+02	2.4411E+02	3.6977E+02
RHC	9.2327E+00	2.7039E+01	3.3429E+01
H	6.4664E+02	1.1255E+03	1.5623E+03
A	2.0264E+01	2.9951E+01	3.9794E+01
S	2.7517E+00	2.9399E+00	2.9604E+00
Z	3.4322E+00	3.6002E+00	3.7794E+00
GA ME	1.0054E+00	1.0339E+00	1.1394E+00
U	4.8302E+01	1.6517E+01	1.8441E+01

SPECIES	MOLE FRACTIONS
E-	5.0227E-01
HE	7.9051E-04
HE+	3.1844E-02
HE++	2.0033E-05
H	4.6774E-03
H+	4.3242E-01
H2	3.4896E-09
	5.2373E-01
	4.2503E-05
	3.7909E-03
	4.5085E-02
	1.5763E-03
	4.2177E-01
	7.2673E-10

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table 11 - Continued

$$p_1 = 2 \text{ KN/m}^2$$

P1 = 2.00E+03 N/50-M, US1 = 4.00E+03 M/SEC				P1 = 2.00E+03 N/50-M, US1 = 7.00E+03 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	H	P	T	RHO	H
1.2572E+01	3.1753E+00	3.9601E+00	3.2467E+00	3.9511E+01	7.4001E+00	5.3261E+00	8.0894E+00
1.7735E+00	1.9769E+00	1.0674E+00	1.0000E+00	2.6101E+00	1.1621E+00	1.0016E+00	1.0016E+00
1.0655E+00	1.0000E+00	9.9100E-01	2.4570E+00	1.0016E+00	1.0016E+00	1.0016E+00	1.0016E+00
2.4570E+00	1.4729E+00	1.4729E+00	1.4729E+00	4.6721E+00	1.7616E+00	1.7616E+00	1.7616E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.3968E-52	7.9371E-40	4.7529E-24	E-	9.5133E-17	2.6547E-12	1.3650E-10
HE	2.0000E-01	2.0000E-01	1.5999E-01	HE	1.9999E-01	1.9999E-01	1.9999E-01
HE+	5.0397E-04	1.2130E-56	2.0237E-47	HE+	2.8321E-38	7.5474E-29	2.6522E-25
HE++	0.	0.	0.	HE++	0.	0.	1.0559E-99
H	2.7337E-10	9.9402E-04	6.5071E-05	H	3.0202E-03	3.0202E-02	1.0034E-01
H+	7.2402E-20	7.2402E-20	7.2402E-20	H+	2.6547E-12	2.6547E-12	1.3650E-10
H2	6.0600E-01	3.0000E-01	7.9999E-01	H2	7.9371E-40	7.9371E-40	7.9371E-40

P1 = 2.00E+03 N/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9811E+01	5.2105E+01	1.1564E+02
T	4.4065E+00	5.9035E+00	8.0439E+00
RHO	4.4958E+00	9.8243E+00	1.4311E+01
H	4.5641E+00	6.2443E+00	8.9041E+00
A	2.0733E+00	2.3747E+00	2.7101E+00
S	1.0992E+00	1.1039E+00	1.1257E+00
Z	1.0001E+00	1.0001E+00	1.0025E+00
GAME	9.7550E-01	9.5597E-01	9.1085E-01
U	3.1952E+00	1.6263E+00	1.4603E+00

SPECIES	MOLE FRACTIONS	
E-	3.2328E-36	3.5375E-22
HE	2.0000E-01	1.9999E-01
HE+	6.6257E-55	1.9224E-46
HE++	0.	0.
H	1.1376E-06	2.2714E-04
H+	7.2402E-20	7.2751E-20
H2	8.0000E-01	7.9989E-01

P1 = 2.00E+03 N/SQ-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8755E+01	8.9141E+01	1.7975E+02
T	5.8438E+00	8.0445E+00	1.0216E+01
RHO	4.9205E+00	1.1050E+01	1.7614E+01
H	6.1763E+00	8.9254E+00	1.2262E+01
A	2.3644E+00	2.7056E+00	2.9567E+00
S	1.1316E+00	1.1391E+00	1.1632E+00
Z	1.0001E+00	1.0024E+00	1.0181E+00
GAME	9.5622E-01	9.0741E-01	8.5511E-01
U	3.5297E+00	1.7497E+00	1.5226E+00

SPECIES	MOLE FRACTIONS	
E-	1.2488E-21	1.7743E-15
HE	1.9999E-01	1.9943E-01
HE+	3.7184E-47	7.1975E-36
HE++	0.	0.
H	1.3908E-04	5.6099E-03
H+	7.1149E-20	1.7744E-15
H2	7.9987E-01	7.9490E-01

P1 = 2.00E+03 N/SQ-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2302E+01	2.4211E+02	3.7393E+02
T	9.8431E+00	1.1504E+01	1.2614E+01
RHO	5.8824E+00	1.9291E+01	2.6277E+01
H	1.6311E+00	1.6243E+01	2.0719E+01
A	2.7865E+00	3.1844E+00	3.4444E+00
S	1.1924E+00	1.2119E+00	1.2429E+00
Z	1.0103E+00	1.0053E+00	1.0111E+00
GAME	9.6809E-01	9.3501E-01	8.3377E-01
U	5.4527E+00	1.7472E+00	1.5671E+00

SPECIES	MOLE FRACTIONS	
E-	9.1315E-14	1.3483E-10
HE	1.9795E-01	1.6945E-01
HE+	9.0641E-33	2.6417E-26
HE++	0.	4.5349E-49
H	2.0472E-02	1.6549E-01
H+	9.1005E-14	1.3400E-10
H2	7.9113E-01	7.0003E-01

P1 = 2.00E+03 N/SQ-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7421E+01	3.3493E+02	5.3133E+02
T	9.9999E+00	1.2974E+01	1.4249E+01
RHO	6.5533E+00	2.3374E+01	3.2013E+01
H	1.2490E+01	2.0903E+01	2.6090E+01
A	2.9375E+00	3.4439E+00	3.7257E+00
S	1.2233E+00	1.2516E+00	1.2477E+00
Z	1.0300E+00	1.0011E+00	1.0050E+00
GAME	9.3859E-01	9.3265E-01	9.3912E-01
U	6.2679E+00	1.7566E+00	1.6140E+00

SPECIES	MOLE FRACTIONS	
E-	4.9499E-12	2.0020E-09
HE	1.9947E-01	1.8392E-01
HE+	5.9746E-29	1.3550E-22
HE++	0.	7.9644E-42
H	5.8335E-02	1.3179E-01
H+	4.9409E-12	2.0020E-09
H2	7.4770E-01	5.2739E-01

REPRODUCIBILITY OF
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/SQ-M, US1= 1.03E+04 M/SEC				P1 = 2.00E+03 N/SQ-M, US1= 1.30E+04 M/SEC			
SPECIES	MOLE FRACTIONS		REFLECTED SHOCK	MOVING SHOCK	MOLE FRACTIONS		REFLECTED SHOCK
	-----				-----		
E-	6.5725E-11	1.4836E-09	8.4743E-09	8.4706E+02	6.8246E-09	1.0905E-06	5.673E-06
HE	1.8963E-01	1.7122E-01	1.6132E-01	1.47751E+02	1.6841E-01	1.4210E-01	1.3152E-01
HE+	1.7464E-26	1.3995E-20	9.8581E-19	1.4175E+01	6.6130E-22	3.2074E-15	1.7553E-14
HE++	0.	4.9403E-75	1.2586E-68	2.9839E+01	1.7511E-80	4.9962E-59	4.9942E-53
H	1.1149E-01	2.3782E-01	3.8677E-01	2.6173E+01	3.1588E-01	5.7837E-01	5.8476E-01
H+	6.5725E-11	1.4836E-09	8.4743E-09	3.7239E+00	6.8246E-09	1.0905E-06	5.673E-06
H2	6.9949E-01	5.4096E-01	4.5101E-01	1.5710E+01	5.1570E-01	2.7947E-01	1.9371E-01
P	8.4505E+01			7.3502E+02			
T	1.0933E+01			1.4175E+01			
RHC	7.2997E+00			3.9029E+01			
H	1.5710E+01			3.2197E+01			
A	3.0942E+00			4.0475E+00			
S	1.2554E+00			1.3333E+00			
Z	1.3591E+00			1.2397E+00			
GAME	8.2703E-01			8.4600E-01			
U	7.0925E+00			1.6950E+00			

P1 = 2.00E+03 N/SQ-M, US1= 1.13E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2351E+02	6.5526E+02	9.8707E+02
T	1.1753E+01	1.5455E+01	1.7327E+01
RHO	8.0371E+00	3.4194E+01	4.3753E+01
M	1.8864E+01	3.2013E+01	3.9335E+01
S	3.2565E+00	4.0252E+00	4.4033E+00
A	1.2895E+00	1.3395E+00	1.3821E+00
Z	1.9957E+00	1.2399E+00	1.3253E+00
GAME	8.2347E-01	8.4550E-01	8.5946E-01
U	7.9145E+00	1.8312E+00	1.7792E+00

SPECIES	MOLE FRACTIONS	
E-	4.4047E-10	7.5659E-09
HE	1.8252E-01	1.6131E-01
HE+	1.5210E-24	6.1435E-19
HE++	2.5779E-90	3.7890E-69
H	1.7476E-01	3.8694E-01
H+	4.4047E-10	7.5659E-09
H2	6.4272E-01	4.5175E-01

P1 = 2.00E+03 N/SQ-M, US1= 1.20E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2437E+02	8.6537E+02	1.2856E+03
T	1.2506E+01	1.6768E+01	1.8598E+01
RHO	8.7328E+00	3.9095E+01	4.8741E+01
M	2.2315E+01	3.4401E+01	4.6631E+01
A	3.4255E+00	4.3552E+00	4.8106E+00
S	1.3246E+00	1.3947E+00	1.4329E+00
Z	1.1388E+00	1.3200E+00	1.4194E+00
GAME	9.2391E-01	9.5699E-01	9.7672E-01
U	9.7314E+00	1.9524E+00	1.9053E+00

SPECIES	MOLE FRACTIONS	
E-	1.9446E-09	3.0623E-07
HE	1.7622E-01	1.5152E-01
HE+	3.6040E-23	1.5712E-17
HE++	1.2161E-83	1.3233E-63
H	2.4376E-01	4.8484E-01
H+	1.9446E-09	3.0623E-07
H2	5.8042E-01	3.6365E-01

P1 = 2.0CE+03 N/SQ-M, US1= 1.40E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7153E+02	1.3661E+03	2.0299E+03
T	1.3525E+01	1.5733E+01	2.2853E+01
RHO	9.9211E+00	4.6210E+01	5.4706E+01
M	3.0097E+01	5.2771E+01	6.4396E+01
A	3.7902E+00	5.1368E+00	5.9123E+00
S	1.4034E+00	1.4801E+00	1.5337E+00
Z	1.2410E+00	1.4981E+00	1.6237E+00
GAME	8.3090E-01	8.2261E-01	9.4237E-01
U	1.0345E+01	2.1231E+00	2.2005E+00

SPECIES	MOLE FRACTIONS	
E-	2.0267E-08	3.6555E-06
HE	1.6109E-01	1.3350E-01
HE+	7.7670E-21	5.7093E-15
HE++	1.3102E-76	2.3674E-54
H	3.8917E-01	6.6495E-01
H+	2.0267E-08	3.6555E-06
H2	4.4975E-01	2.0154E-01

P1 = 2.0CE+03 N/SQ-M, US1= 1.5CE+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9774E+02	1.6444E+03	2.4920E+03
T	1.4625E+01	2.1604E+01	2.6569E+01
RHO	1.0354E+01	4.7579E+01	5.4441E+01
M	3.4432E+01	6.0693E+01	7.4999E+01
A	3.9895E+00	5.6293E+00	6.7999E+00
S	1.4403E+00	1.5277E+00	1.5906E+00
Z	1.3005E+00	1.5999E+00	1.7159E+00
GAME	8.3661E-01	9.2257E-01	1.0142E+00
U	1.1140E+01	2.4203E+00	2.6278E+00

SPECIES	MOLE FRACTIONS	
E-	5.3841E-09	1.2406E-06
HE	1.5376E-01	1.2581E-01
HE+	6.9847E-20	1.0517E-14
HE++	2.8146E-72	3.6276E-50
H	4.6238E-01	7.4190E-01
H+	5.3841E-09	1.2406E-06
H2	3.8413E-01	1.3227E-01

$$p_1 = 2 \text{ kN/m}^2$$

$P1 = 2.07E+03 \text{ N/SQ-MM}, \quad US1 = 1.63E+04 \text{ N/SEC}$

PI = 2.00E+03 N/50-M, US1 = 1.90E+04 M/SEC

	MOVING SWICK	STANDING SHOCK	REFLECTED SHOCK
P	2.2569E+02	1.9276E+03	3.20033E+03
T	1.5355E+01	2.4355E+01	3.2856E+01
R-H	1.1778E+01	4.7857E+01	5.1553E+01
M	3.5565E+01	6.0355E+01	9.7350E+01
W	4.2036E+00	2.2137E+01	7.9471E+00
Z	1.4813E+00	1.5741E+00	1.6417E+00
L	1.3637E+00	1.6744E+00	1.7731E+00
GAME	8.4334E-01	5.7020E-01	1.7041E+00
U	1.1927E+01	2.6877E+00	3.1519E+00

SPECIES		MOLE FRACTIONS	
Me	1.3440E-17	4.6921E-25	1.0023E-03
Me+	1.4668E-21	1.1974E-01	1.1240E-01
Me++	5.9940E-19	2.6242E-12	6.1352E-09
H	2.3937E-69	9.4274E-45	4.8595E-32
H+	5.3340E-01	8.0543E-01	8.6982E-01
H+	1.3440E-27	4.6921E-05	1.3622E-03
N2	3.1994E-21	7.5923E-02	1.6261E-02

P	MOVING SALVAGE	STANDING STOCK	REFLECTED STOCK
T	3.1934E+02	2.6597E+03	4.6533E+03
P	1.7955E+01	3.7663E+01	5.2948E+01
RMC	1.1312E+01	3.9311E+01	4.7320E+01
H	5.4711E+01	9.5947E+01	1.2795E+02
A	4.9921E+00	3.4941E+00	9.7130E+00
S	1.6301E+00	1.6920E+00	1.7551E+00
Z	1.5724E+00	1.7944E+00	1.9527E+00
CASE	6.8233E-01	1.3976E+00	9.6364E-01
U	1.4233E+01	4.3905E+00	4.4646E+00

SPECIES	WLF FRACTIONS		
E-	1.0526E-06	3.7134E-03	1.0759E-02
HE	1.2718E-01	1.1146E-01	1.0793E-01
HE+	3.0141E-16	1.1072E-07	2.4463E-05
HE++	2.0856E-59	1.3721E-27	4.9909E-19
H	7.0298E-11	9.7626E-01	8.2821E-01
H+	1.8926E-06	3.7134E-03	3.0715E-02
H2	1.4413E-01	6.0386E-03	2.3306E-03

P1 = 2.00E+03 M/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5352E+02	2.9638E+03	5.0950E+03
T	1.9161E+01	4.2842E+01	5.7406E+01
RHL	1.1233E+01	3.6920E+01	4.6954E+01
M	6.0514E+01	1.0560E+02	1.4140E+02
A	5.3476E+00	9.9035E+00	1.0125E+01
S	1.6490E+03	1.7241E+03	1.7800E+03
Z	1.6425E+03	1.8106E+03	1.9460E+03
GAME	9.0877E+01	1.0223E+02	9.4470E+01
U	1.4971E+01	4.5519E+00	4.7078E+00

SPECIES	MOLE FRACTIONS
E-	5.0554E-04
HE	1.2177E-01
HE+	3.1440E-15
HE++	1.5746E-55
H	7.8222E-01
H+	9.6632E-01
H2	9.0810E-03
	3.4551E-03
	9.6822E-03
	1.0446E-01
	1.1403E-06
	5.9516E-74
	2.5567E-17
	7.9680E-01
	4.7609E-02
	1.7337E-03

P1 = 2.00E+03 M/SQ-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.9961E+02	3.0333E+03	5.4363E+03
T	2.0822E+01	4.7456E+01	6.1474E+01
PHI	1.0927E+01	3.4914E+01	4.5953E+01
M	6.0505E+01	1.1583E+02	1.5522E+02
A	5.9209E+00	9.2436E+00	1.0510E+01
S	1.6914E+00	1.7551E+00	1.8167E+03
Z	1.7374E+03	1.9305E+03	1.9244E+03
GAME	9.5447E+01	9.8296E+01	9.3370E+01
U	1.5671E+01	4.9009E+00	4.8094E+00

SPECIES	MOLE FRACTIONS
E-	1.6385E-05
HE	1.1711E-01
HE+	5.5465E-14
HE++	2.6598E-51
H	9.2822E-01
H+	1.9169E-02
H2	2.4963E-03
	1.9175E-02
	1.0925E-01
	6.0075E-06
	2.2970E-21
	4.9455E-16
	7.4290E-01
	6.5929E-02
	1.3402E-03

P1 = 2.00E+03 M/SQ-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5535E+02	2.1990E+03	3.5670E+03
T	1.6125E+01	2.7539E+01	4.0623E+01
RHC	1.1067E+01	4.5997E+01	4.9966E+01
M	4.3985E+01	7.7761E+01	1.0090E+02
A	4.4363E+00	7.6556E+00	9.7623E+00
S	1.5231E+00	1.6176E+00	1.6860E+00
Z	1.4309E+03	1.7394E+03	1.7992E+03
GAME	8.5366E+01	1.0393E+02	1.0505E+02
U	1.2706E+01	3.0652E+00	3.7293E+00

SPECIES	MOLE FRACTIONS
E-	3.2119E-07
HE	1.3979E-01
HE+	4.4176E-18
HE++	1.1386E-65
H	1.2566E-38
H+	8.7094E-01
H2	9.4951E-01
	5.8247E-03
	6.2481E-03
	2.1158E-04
	3.5080E-02
	5.8271E-03
	1.1116E-01
	3.9787E-07
	1.6490E-25
	8.7094E-01
	9.4951E-01
	5.8247E-03
	6.2481E-03

P1 = 2.00E+03 M/SQ-M, US1 = 1.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9659E+02	2.4403E+03	4.1169E+03
T	1.6974E+01	3.2293E+01	4.7327E+01
RHC	1.1250E+01	4.2562E+01	4.7710E+01
M	4.9238E+01	8.6724E+01	1.1442E+02
A	4.6944E+00	7.9914E+00	9.2750E+00
S	1.5655E+00	1.6569E+00	1.7225E+00
Z	1.5304E+03	1.7577E+03	1.9232E+03
GAME	8.6523E+01	1.0861E+02	9.9694E+01
U	1.3475E+01	3.5636E+00	4.1569E+00

SPECIES	MOLE FRACTIONS
E-	7.6895E-07
HE	1.3326E-01
HE+	4.5644E-09
HE++	5.5196E-63
H	1.3334E-32
H+	8.7065E-01
H2	1.0529E-03
	1.6707E-02
	1.0038E-03
	1.1263E-01
	4.9474E-06
	1.4450E-21
	9.5444E-01
	1.6199E-02
	3.4639E-03

Table II. - Continued

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/50-M, US1 = 2.50E+04 M/SEC				P1 = 2.00E+03 N/50-M, US1 = 2.50E+04 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	REFLECTED SHOCK			STANDING SHOCK	REFLECTED SHOCK	
E-	7.0376E-05	9.1500E-02	8.4610E-02	E-	4.6694E-03	7.8299E-02	1.4025E-01
HE	1.13E-01	1.0779E-01	1.0151E-01	HE	1.1081E-01	1.0231E-01	9.4414E-02
HE+	2.004E-12	2.004E-12	2.004E-12	HE+	6.1922E-08	1.8895E-04	1.1736E-03
HE++	2.83E-05	1.04E-05	1.04E-05	HE++	4.9908E-29	4.9245E-16	4.7197E-13
H	4.6179E-01	9.2746E-01	7.0292E-01	H	8.7785E-01	7.4330E-01	6.2455E-01
H+	7.7370E-05	1.1480E-02	8.4200E-02	H+	4.6684E-03	7.8110E-02	1.3907E-01
H2	2.4276E-02	1.7570E-03	1.0520E-03	H2	1.9994E-03	7.9418E-04	5.4187E-04
P	4.2401E+02	3.1345E+03	5.5066E+03	P	5.3377E+02	3.2826E+03	5.6372E+03
T	2.3317E+01	5.1426E+01	6.4810E+01	T	5.5191E+01	6.0742E+01	7.2734E+01
PHU	1.0335E+01	3.0285E+01	4.3054E+01	PHU	8.4065E+00	2.7696E+01	3.7242E+01
M	7.2917E+01	1.0278E+02	1.0681E+02	M	3.3409E+01	1.5947E+02	2.0895E+02
A	6.4963E+00	5.5177E+00	1.0862E+01	A	8.1553E+00	1.0443E+01	1.1812E+01
S	1.7303E+00	1.7861E+00	1.8490E+00	S	1.8245E+00	1.9771E+00	1.9414E+00
Z	1.7077E+00	1.9552E+00	1.9741E+00	Z	1.8348E+00	1.9512E+00	2.0923E+00
GAME	1.0301E+00	5.0640E-01	5.2669E-01	GAME	1.0475E+00	9.2039E-01	9.1689E-01
U	1.6331E+01	5.1397E+00	5.7262E+00	U	1.6099E+01	5.4910E+00	5.3089E+00

P1 = 2.00E+03 N/50-M, US1 = 2.50E+04 M/SEC				P1 = 2.00E+03 N/50-M, US1 = 2.50E+04 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	REFLECTED SHOCK			STANDING SHOCK	REFLECTED SHOCK	
E-	7.0376E-05	9.1500E-02	8.4610E-02	E-	4.6694E-03	7.8299E-02	1.4025E-01
HE	1.13E-01	1.0779E-01	1.0151E-01	HE	1.1081E-01	1.0231E-01	9.4414E-02
HE+	2.004E-12	2.004E-12	2.004E-12	HE+	6.1922E-08	1.8895E-04	1.1736E-03
HE++	2.83E-05	1.04E-05	1.04E-05	HE++	4.9908E-29	4.9245E-16	4.7197E-13
H	4.6179E-01	9.2746E-01	7.0292E-01	H	8.7785E-01	7.4330E-01	6.2455E-01
H+	7.7370E-05	1.1480E-02	8.4200E-02	H+	4.6684E-03	7.8110E-02	1.3907E-01
H2	2.4276E-02	1.7570E-03	1.0520E-03	H2	1.9994E-03	7.9418E-04	5.4187E-04

P1 = 2.00E+03 N/SQ-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.595E+02	3.1728E+03	5.6213E+03
T	2.681E+01	5.4852E+01	6.7445E+01
RHO	9.6077E+00	1.6717E+01	4.1296E+01
H	7.947E+02	1.3594E+02	1.8175E+02
A	7.237E+00	9.8477E+00	1.1103E+01
S	1.76E+00	1.9172E+00	1.8795E+00
Z	1.783E+00	1.8439E+00	2.0652E+00
GAPE	1.505E+00	9.384E-01	9.219E-01
U	1.693E+01	5.2902E+00	5.1298E+00

SPECIES	MOLE FRACTIONS
E-	3.5277E-04
HE	1.1212E-01
HE+	1.0710E-10
HE++	5.5053E-37
H	8.7775E-01
H+	3.5277E-04
H2	9.425E-03

P1 = 2.00E+03 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5574E+02	3.2010E+03	5.5707E+03
T	3.161E+01	5.7944E+01	7.0149E+01
RHO	9.537E+00	2.8381E+01	3.8761E+01
H	9.629E+01	1.4751E+02	1.9494E+02
A	7.602E+00	1.0130E+01	1.1491E+01
S	1.795E+00	1.9479E+00	1.9113E+00
Z	1.7437E+00	1.5158E+00	2.0476E+00
GAPE	1.093E+00	4.2747E-01	9.1977E-01
U	1.7537E+01	5.3045E+00	5.2159E+00

SPECIES	MOLE FRACTIONS
E-	1.5249E-03
HE	1.112E-01
HE+	3.653E-09
HE++	2.4628E-33
H	8.911E+01
H+	1.5249E-03
H2	3.9179E-03

P1 = 2.00E+03 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.7445E+02	3.4376E+03	5.8333E+03
T	3.897E+01	6.3541E+01	7.5403E+01
RHO	9.1135E+00	2.7199E+01	3.6152E+01
H	1.0084E+02	1.7185E+02	2.2385E+02
A	9.4065E+00	1.0759E+01	1.2159E+01
S	1.8505E+00	1.9043E+00	1.9704E+00
Z	1.9169E+00	1.9991E+00	2.1399E+00
GAPE	9.9824E-01	9.1566E-01	9.1606E-01
U	1.8732E+01	5.5944E+00	5.4161E+00

SPECIES	MOLE FRACTIONS
E-	1.0477E-02
HE	1.1009E-01
HE+	4.5532E-07
HE++	6.5119E-26
H	8.6774E-01
H+	1.0477E-02
H2	1.2261E-03

P1 = 2.00E+03 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.1781E+02	3.6535E+03	6.1419E+03
T	4.230E+01	6.6355E+01	7.8202E+01
RHO	7.967E+00	2.7120E+01	3.5858E+01
H	1.0561E+02	1.9532E+02	2.3996E+02
A	8.6348E+00	1.1091E+01	1.2526E+01
S	1.914E+00	1.9309E+00	1.9995E+00
Z	1.833E+00	2.0302E+00	2.1903E+00
GAPE	9.6149E-01	9.1311E-01	9.1597E-01
U	1.9402E+01	5.6968E+00	5.5379E+00

SPECIES	MOLE FRACTIONS
E-	1.9940E-02
HE	1.0911E-01
HE+	1.5032E-06
HE++	1.2699E-23
H	9.5236E-01
H+	1.8838E-02
H2	8.5367E-04

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR.

Table II. - Continued

$$P_1 = 2 \text{ KN/m}^2$$

P1 = 2.00E+03 N/50-M, US1 = 2.80E+04 M/SEC				P1 = 2.00E+03 N/50-M, US1 = 3.23E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
P	T	RHO	U	P	T	RHO	U
6.637E+02	3.919E+03	6.916E+01	6.539E+03	9.69E+02	5.338E+03	6.790E+03	6.790E+03
4.525E+01	6.916E+01	2.732E+01	3.594E+01	5.468E+01	4.231E+01	9.332E+01	9.332E+01
7.915E+03	2.732E+01	1.994E+02	2.511E+02	4.117E+02	2.612E+02	3.784E+02	3.784E+02
1.167E+02	1.994E+02	1.143E+01	1.251E+01	1.522E+02	1.285E+01	1.457E+01	1.457E+01
8.863E+00	1.143E+01	1.956E+00	2.023E+00	5.813E+02	2.573E+02	2.175E+02	2.175E+02
1.897E+03	1.956E+00	2.073E+00	2.243E+00	1.086E+02	4.277E+02	2.473E+02	2.473E+02
1.853E+00	2.073E+00	9.118E-01	9.163E-01	1.463E+00	6.134E-01	5.232E-01	5.232E-01
9.368E-01	9.118E-01	5.819E+00	5.671E+00	8.581E-01	6.373E+00	6.294E+00	6.294E+00
2.010E+01	5.819E+00			4.305E+01			
MOLE FRACTIONS				MOLE FRACTIONS			
SPECIES				SPECIES			
E-	2.924E-02	1.325E-01	1.978E-01	E-	5.237E-02	2.062E-01	2.714E-01
HE	1.075E-01	9.562E-02	8.587E-02	HE	1.017E-01	8.440E-02	7.119E-02
HE+	5.953E-06	8.129E-04	3.292E-03	HE+	9.165E-05	3.32E-03	6.760E-03
HE++	6.968E-22	9.853E-14	2.135E-11	HE++	1.416E-17	1.984E-11	1.462E-09
H	8.324E-01	6.388E-01	5.181E-01	H	7.331E-01	5.223E-01	1.853E-01
H+	2.924E-02	1.317E-01	1.945E-01	H+	8.721E-02	2.072E-01	2.619E-01
H2	6.445E-04	4.602E-04	3.150E-04	H2	3.013E-04	7.449E-04	1.656E-04

P1 = 2.00E+03 N/SQ-M, US1 = 2.90E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.120E+02	4.227E+03	7.001E+03
T	4.793E+01	7.196E+01	8.408E+01
RHO	7.921E+00	2.771E+01	3.627E+01
H	1.251E+02	2.135E+02	2.752E+02
A	9.096E+00	1.172E+01	1.331E+01
S	1.920E+00	1.982E+00	2.053E+00
Z	1.876E+00	2.119E+00	2.297E+00
GAME	9.236E-01	9.115E-01	9.170E-01
U	2.082E+01	5.950E+00	5.915E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	4.116E-02
HE	1.065E-01
HE+	1.434E-05
HE++	1.675E-20
H	9.105E-01
H+	4.115E-02
H2	5.122E-04

P1 = 2.00E+03 N/SQ-M, US1 = 3.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.625E+02	4.572E+03	7.562E+03
T	5.629E+01	7.474E+01	8.714E+01
RHO	7.972E+00	2.821E+01	3.676E+01
H	1.331E+02	2.299E+02	2.942E+02
A	9.330E+00	1.215E+01	1.372E+01
S	1.642E+00	2.077E+00	2.391E+00
Z	1.901E+00	2.167E+00	2.354E+00
GAME	9.120E-01	9.119E-01	9.179E-01
U	2.156E+01	6.089E+00	5.967E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	5.399E-02
HE	1.051E-01
HE+	2.924E-05
HE++	2.221E-20
H	7.864E-01
H+	5.396E-02
H2	4.223E-04

P1 = 2.00E+03 N/SQ-M, US1 = 3.40E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.843E+02	4.227E+03	1.000E+04
T	5.853E+01	4.592E+01	7.994E+01
RHO	9.295E+00	4.645E+01	3.903E+01
H	1.718E+02	2.563E+02	3.782E+02
A	1.029E+01	1.365E+01	1.565E+01
S	2.029E+00	2.137E+00	2.199E+00
Z	2.029E+00	2.372E+00	2.590E+00
GAME	9.932E-01	7.155E-01	7.238E-01
U	2.457E+01	6.446E+00	6.224E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	1.114E-01
HE	9.957E-02
HE+	2.195E-04
HE++	3.427E-10
H	6.777E-01
H+	1.114E-01
H2	2.267E-04

P1 = 2.00E+03 N/SQ-M, US1 = 3.60E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.166E+03	7.150E+03	1.158E+04
T	6.225E+01	9.150E+01	1.045E+02
RHO	9.471E+00	3.152E+01	4.067E+01
H	1.526E+02	3.329E+02	4.294E+02
A	1.070E+01	1.463E+01	1.630E+01
S	2.072E+00	2.158E+00	2.244E+00
Z	2.072E+00	2.479E+00	2.713E+00
GAME	9.917E-01	5.179E-01	5.264E-01
U	2.609E+01	7.006E+00	6.905E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	1.419E-01
HE	9.493E-02
HE+	4.514E-04
HE++	4.967E-10
H	4.235E-01
H+	1.415E-01
H2	1.727E-04

Table II. - Continued

$$P_1 = 2 \text{ kW/m}^2$$

P1 = 2.00E+03 N/SQ-M, US1 = 7.93E+04 M/SEC				P1 = 2.00E+03 N/SQ-M, US1 = 4.63E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHC	M	P	T	RHC	M
1.2366E+23	9.1E79E+03	1.3216E+04	1.3216E+04	1.6676E+03	1.154JE+04	1.8838E+04	1.8838E+04
6.5816E+01	9.7217E+01	1.1362E+02	1.1362E+02	7.5978E+01	1.1560E+02	1.4144E+02	1.4144E+02
8.6452E+00	3.2443E+01	4.6930E+01	4.6930E+01	9.0501E+00	3.4161E+01	4.1596E+01	4.1596E+01
2.1467E+02	3.7275E+02	4.7485E+02	4.7485E+02	2.9742E+02	5.3151E+02	6.4551E+02	6.4551E+02
1.1207E+01	1.5224E+01	1.7414E+01	1.7414E+01	1.2860E+01	1.7854E+01	2.1304E+01	2.1304E+01
2.1164E+00	2.2706E+00	2.2991E+00	2.2991E+00	2.2492E+00	2.3565E+00	2.6620E+00	2.6620E+00
2.1733E+00	2.5897E+00	2.9366E+00	2.9366E+00	2.4224E+00	2.9223E+00	3.2019E+00	3.2019E+00
8.9224E-01	7.2111E-01	9.3021E-01	9.3021E-01	9.9550E-01	9.4365E-01	1.0321E+00	1.0321E+00
2.7615E+01	7.35545E+00	7.4611E+00	7.4611E+00	3.2166E+01	9.5286E+00	8.9467E+00	8.9467E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.7191E-01	3.6503E-01	3.6555E-01	E-	2.5700E-01	3.9409E-01	4.3795E-01
HE	9.1194E-02	6.3616E-02	4.3105E-02	HE	7.5033E-02	3.7823E-02	1.8145E-02
HE+	9.3171E-04	1.3613E-02	2.7304E-02	HE+	3.5297E-03	3.0416E-02	4.4306E-02
HE++	5.6299E-14	5.2445E-09	1.8977E-07	HE++	1.0044E-11	3.1954E-07	1.1454E-05
H	5.6486E-01	3.2572E-01	2.2574E-01	H	4.3641E-01	1.9399E-01	1.0615E-01
H+	1.7107E-01	2.9142E-01	3.3816E-01	H+	2.5347E-01	3.5346E-01	3.9352E-01
H2	1.3301E-04	9.7450E-05	5.2451E-05	H2	5.9791E-05	3.2703E-05	1.0621E-05

PI = 2.00E+03 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8250E+03	1.2738E+04	2.1025E+04
T	7.9351E+01	1.2259E+02	1.5468E+02
RHO	9.1625E+00	3.4287E+01	4.1213E+01
H	3.1145E+02	5.4851E+02	7.1162E+02
A	1.3397E+01	1.8871E+01	2.3030E+01
S	2.2523E+03	2.4055E+00	2.5170E+00
Z	2.5101E+00	3.0307E+00	3.3111E+00
GAME	9.0112E+01	9.5854E+01	1.0356E+00
U	3.3677E+01	8.9063E+00	9.6994E+00

SPECIES	MOLE FRACTIONS
E-	2.8294E-01
HE	7.4448E-02
HE+	5.2299E-03
ME++	4.4705E-11
H	3.5962E-01
H+	2.7771E-01
H2	4.5139E-05
	4.0609E-01
	2.9803E-02
	3.6190E-02
	1.0587E-06
	1.5902E-01
	3.6988E-01
	2.1143E-05
	4.5638E-01
	1.2637E-02
	4.7718E-02
	4.7397E-05
	7.4638E-02
	4.0857E-01
	4.0655E-06

PI = 2.00E+03 N/SQ-M, US1 = 4.83E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9895E+03	1.3932E+04	2.3286E+04
T	8.2795E+01	1.3334E+02	1.7113E+02
RHO	9.2384E+00	3.4392E+01	3.9985E+01
H	3.4253E+02	5.8716E+02	7.8234E+02
A	1.3945E+01	1.9993E+01	2.4946E+01
S	2.3371E+03	2.4539E+00	2.5698E+00
Z	2.6033E+00	3.1352E+00	3.4336E+00
GAME	9.6384E+01	9.7817E+01	1.0886E+00
U	3.5173E+01	9.5281E+00	1.0566E+01

SPECIES	MOLE FRACTIONS
E-	3.0782E-01
HE	6.9366E-02
HE+	7.5194E-03
ME++	1.8157E-10
H	3.1497E-01
H+	3.0629E-01
H2	5.3503E-05
	4.2598E-01
	2.2726E-02
	4.1363E-02
	3.3993E-06
	1.2550E-01
	3.8491E-01
	1.2871E-05
	4.7106E-01
	8.7294E-03
	4.5836E-02
	2.6588E-04
	4.9354E-02
	4.2391E-01
	2.0108E-06

PI = 2.00E+03 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3732E+03	9.2445E+03	1.4961E+04
T	6.9237E+01	1.0325E+02	1.2172E+02
RHO	9.0223E+00	3.3223E+01	4.1514E+01
H	2.3784E+02	4.1318E+02	5.2787E+02
A	1.1909E+01	1.4540E+01	1.4540E+01
S	2.1601E+00	2.2549E+00	2.3577E+00
Z	2.2532E+00	2.7033E+00	2.9406E+00
GAME	8.9381E+01	9.2578E+01	9.5379E+01
U	2.0135E+01	7.7152E+00	7.9396E+00

SPECIES	MOLE FRACTIONS
E-	2.0124E-01
HE	9.7344E-02
HE+	1.4200E-03
ME++	3.3537E-13
H	5.1040E-01
H+	1.9981E-01
H2	1.0245E-04
	3.3347E-01
	5.5191E-02
	1.4876E-02
	2.3141E-08
	2.7779E-01
	3.1660E-01
	6.9584E-05
	3.9206E-01
	3.3724E-02
	3.3828E-02
	7.5940E-07
	1.4213E-01
	3.4623E-01
	3.3680E-05

PI = 2.00E+03 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5169E+03	1.0376E+04	1.6937E+04
T	7.2805E+01	1.0912E+02	1.3075E+02
RHO	8.9424E+00	3.3944E+01	4.1764E+01
H	2.6225E+02	4.5638E+02	5.8465E+02
A	1.2328E+01	1.6917E+01	1.9922E+01
S	2.2039E+03	2.3066E+00	2.4084E+00
Z	2.3362E+00	2.8112E+00	3.0835E+00
GAME	8.9609E+01	9.3296E+01	9.7454E+01
U	3.0853E+01	4.1054E+00	8.3491E+00

SPECIES	MOLE FRACTIONS
E-	2.2959E-01
HE	8.3322E-02
HE+	2.2976E-03
ME++	1.9759E-12
H	4.3741E-01
H+	2.2731E-01
H2	7.8644E-05
	3.5974E-01
	4.6474E-02
	2.4671E-02
	8.9873E-09
	2.3399E-01
	3.3507E-01
	4.9592E-05
	4.1627E-01
	2.5244E-02
	3.9815E-02
	2.9324E-06
	1.4221E-01
	3.7664E-01
	1.9859E-05

Table II. - Continued

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/50-M, US1 = 5.60E+C4 M/SEC					P1 = 2.00E+C3 N/50-M, US1 = 5.60E+C4 M/SEC				
MOVING SHOCK					MOVING SHOCK				
STANDING SHOCK					STANDING SHOCK				
REFLECTED SHOCK					REFLECTED SHOCK				
SPECIES					SPECIES				
MOLE FRACTIONS					MOLE FRACTIONS				
E-	3.3112E-01	4.4307E-01	4.8174E-01	5.0044E-01	E-	3.9254E-01	4.7964E-01	5.0044E-01	
HE	6.3468E-02	1.6915E-02	6.1042E-03	2.2919E-03	HE	4.4150E-02	6.5916E-03	2.2919E-03	
HE+	1.0455E-02	4.4956E-02	5.052F-02	3.8497E-02	HE+	2.3307E-02	5.0994E-02	3.8497E-02	
HE++	6.7578E-10	1.0445E-05	8.9461E-04	1.4673E-02	HE++	2.3305E-08	3.4200E-04	1.4673E-02	
H	2.7398E-01	9.6952E-02	3.1302E-02	1.0697E-02	H	1.7072E-01	3.6478E-02	1.0697E-02	
H+	3.2366E-01	3.9809E-01	4.2939E-01	4.2300E-01	H+	3.6524E-01	4.2696E-01	4.2300E-01	
H2	2.4591E-05	7.3497E-06	7.4988E-07	7.5252E-04	H2	8.7678E-06	8.4904E-07	7.5252E-04	
P	2.1550E+03	1.5132E+04	2.5735E+04	3.3283E+04	P	2.7114E+03	1.8476E+04	3.3283E+04	
T	8.6314E+01	1.3508E+02	1.9119E+02	2.5351E+02	T	9.7635E+01	1.7429E+02	2.5351E+02	
RMC	9.2992E+03	3.3664E+01	3.8756E+01	3.6437E+01	RMC	9.3727E+00	3.0704E+01	3.6437E+01	
M	3.7161E+02	6.4752E+02	8.5966E+02	1.1014E+03	M	4.6598E+02	8.0632E+02	1.1014E+03	
A	1.4511E+01	2.1226E+01	2.6844E+01	3.2567E+01	A	1.6314E+01	2.5499E+01	3.2567E+01	
S	2.3816E+03	2.5933E+03	2.6204E+03	2.7510E+03	S	2.5150E+03	2.6312E+03	2.7510E+03	
Z	2.6925E+03	3.2323E+03	3.4731E+03	3.6261E+03	Z	2.9631E+03	3.4525E+03	3.6261E+03	
GAPE	9.6464E-01	1.0723E+00	1.0833E+00	1.0220E+00	GAPE	9.1947E-01	1.0805E+00	1.0220E+00	
U	3.8677E+01	1.0123E+01	1.1476E+01	1.4263E+01	U	4.1109E+01	1.2555E+01	1.4263E+01	

P1 = 2.00E+03 M/SQ-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.500E+03	1.966E+04	3.574E+04
T	1.018E+02	1.893E+02	2.730E+02
RMC	9.354E+00	2.932E+01	3.595E+01
M	4.597E+02	8.614E+02	1.185E+03
A	1.697E+01	2.683E+01	3.191E+01
S	2.559E+00	2.671E+00	2.790E+00
Z	3.052E+00	3.498E+00	3.647E+00
GAPE	9.274E-01	1.072E+00	1.022E+00
U	4.250E+01	1.354E+01	1.498E+01

SPECIES	MOLE FRACTIONS
E-	4.325E-01
HE	4.954E-01
ME+	4.907E-03
ME++	5.123E-02
M	1.029E-03
H+	2.527E-02
H+	4.321E-01
H2	3.755E-07
	5.923E-06

P1 = 2.00E+03 M/SQ-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.111E+03	2.042E+04	3.818E+04
T	1.044E+02	2.049E+02	2.930E+02
RMC	9.309E+00	2.919E+01	3.531E+01
M	5.366E+02	9.180E+02	1.272E+03
A	1.779E+01	2.787E+01	3.349E+01
S	2.602E+00	2.709E+00	2.827E+00
Z	3.139E+00	3.531E+00	3.655E+00
GAPE	9.366E-01	1.072E+00	1.038E+00
U	4.400E+01	1.452E+01	1.573E+01

SPECIES	MOLE FRACTIONS
E-	4.265E-01
HE	4.905E-01
ME+	3.732E-03
ME++	5.017E-02
M	2.701E-03
H+	1.790E-02
H+	4.349E-01
H2	1.749E-07
	2.660E-08

P1 = 2.00E+03 M/SQ-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.337E+03	1.629E+04	2.826E+04
T	8.992E+01	1.492E+02	2.137E+02
RMC	9.342E+00	3.285E+01	3.764E+01
M	4.018E+02	6.992E+02	9.396E+02
A	1.504E+01	2.259E+01	2.833E+01
S	2.622E+00	2.546E+00	2.463E+00
Z	2.782E+00	3.310E+00	3.524E+00
GAPE	9.208E-01	1.033E+00	1.069E+00
U	3.815E+01	1.043E+01	1.259E+01

SPECIES	MOLE FRACTIONS
E-	3.533E-01
HE	4.579E-01
ME+	1.232E-02
ME++	4.749E-02
M	3.400E-05
H+	3.111E-03
H+	2.033E-02
H2	4.337E-01
	2.034E-07

P1 = 2.00E+03 M/SQ-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.521E+03	1.741E+04	3.379E+04
T	9.369E+01	1.613E+02	2.341E+02
RMC	9.367E+00	3.184E+01	3.684E+01
M	4.333E+02	7.522E+02	1.019E+03
A	1.568E+01	2.453E+01	2.959E+01
S	2.477E+00	2.593E+00	2.711E+00
Z	2.872E+00	3.394E+00	3.556E+00
GAPE	7.134E-01	1.054E+00	1.039E+00
U	3.563E+01	1.164E+01	1.349E+01

SPECIES	MOLE FRACTIONS
E-	3.737E-01
HE	4.594E-01
ME+	8.944E-03
ME++	4.946E-02
M	1.395E-04
H+	2.179E-02
H+	4.196E-01
H2	1.946E-07
	1.365E-07

Table II. - Continued

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/SQ-M, US1 = 6.23E+04 M/SEC				P1 = 2.00E+03 N/SQ-M, US1 = 6.80E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
P	3.3176E+03	2.1363E+04	4.0553E+04	P	3.9610E+03	2.3745E+04	4.6641E+04
T	1.1152E+02	2.2030E+02	3.1531E+02	T	1.3220E+02	2.6292E+02	4.0193E+02
RHO	9.4314E+03	2.7213E+01	3.4628E+01	RHO	8.7105E+03	2.4696E+01	3.0751E+01
M	5.737E+02	9.7653E+22	1.3624E+03	M	6.8537E+02	1.1612E+03	1.6594E+03
A	1.4517E+01	2.4671E+01	3.5315E+01	A	2.1682E+01	3.1256E+01	4.1618E+01
S	2.6454E+00	2.7459E+00	2.8635E+00	S	2.7695E+00	2.8499E+00	2.9727E+00
Z	3.2225E+00	3.5635E+00	3.7177E+00	Z	3.4333E+00	3.6570E+00	3.7746E+00
GAPE	9.5412E-01	1.0471E+00	1.0649E+00	GAPE	1.0342E+00	1.0161E+00	1.1419E+00
U	4.5437E+01	1.5604E+01	1.6727E+01	U	4.9469E+01	1.7459E+01	1.9590E+01
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.4142E-01	4.9409E-01	5.1503E-01	E-	4.7633E-01	5.0779E-01	5.2313E-01
HE	2.2179E-02	2.8697E-03	5.6418E-04	HE	7.8520E-03	1.1554E-03	6.6362E-03
HE+	3.9081E-02	4.7375E-02	1.5806E-02	HE+	5.0350E-02	3.0276E-02	4.3430E-03
H	5.9005E-07	5.8792E-03	3.7346E-02	H	1.7174E-05	2.3299E-02	4.8576E-02
H+	4.4176E-02	1.3238E-02	5.1196E-03	H+	4.0167E-02	6.5301E-03	2.2501E-03
M+	4.6234E-01	4.3575E-01	4.2525E-01	M+	4.2564E-01	4.3099E-01	4.2163E-01
M2	2.1970E-06	8.9916E-04	1.5974E-04	M2	3.6504E-07	1.9045E-03	2.7029E-03

C-5

P1 = 2.00E+03 N/SQ-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5290E+03	2.2251E+04	4.2795E+04
T	1.1738E+02	2.3499E+02	3.4383E+02
RHO	9.1352E+00	2.6347E+01	3.3534E+01
M	6.0799E+02	1.0367E+03	1.4583E+03
A	1.9447E+01	2.9425E+01	3.7413E+01
S	2.6879E+00	2.7810E+00	2.9006E+00
Z	3.3015E+03	3.5943E+00	3.7443E+00
GAME	4.7525E-01	1.0252E+02	1.0969E+00
U	4.6817E+01	1.6165E+01	1.7466E+01

SPECIES

MOLE FRACTIONS

E-	4.9352E-01	5.1190E-01	5.2405E-01
HE	5.1135E-03	7.8488E-04	3.2576E-05
HE+	5.2215E-02	2.3766E-02	2.9857E-03
HE++	5.8487E-05	2.9695E-02	4.9865E-02
H	2.7903E-02	5.3058E-03	1.7272E-03
H+	4.3119E-01	4.2865E-01	4.2134E-01
H2	1.6182E-07	1.2019E-08	1.5119E-09

P1 = 2.00E+03 N/SQ-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5290E+03	2.2251E+04	4.2795E+04
T	1.1738E+02	2.3499E+02	3.4383E+02
RHO	9.1352E+00	2.6347E+01	3.3534E+01
M	6.0799E+02	1.0367E+03	1.4583E+03
A	1.9447E+01	2.9425E+01	3.7413E+01
S	2.6879E+00	2.7810E+00	2.9006E+00
Z	3.3015E+03	3.5943E+00	3.7443E+00
GAME	4.7525E-01	1.0252E+02	1.0969E+00
U	4.6817E+01	1.6165E+01	1.7466E+01

SPECIES

MOLE FRACTIONS

E-	4.9352E-01	5.1190E-01	5.2405E-01
HE	5.1135E-03	7.8488E-04	3.2576E-05
HE+	5.2215E-02	2.3766E-02	2.9857E-03
HE++	5.8487E-05	2.9695E-02	4.9865E-02
H	2.7903E-02	5.3058E-03	1.7272E-03
H+	4.3119E-01	4.2865E-01	4.2134E-01
H2	1.6182E-07	1.2019E-08	1.5119E-09

P1 = 2.00E+03 N/SQ-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7442E+03	2.3059E+04	4.4836E+04
T	1.2421E+02	2.4901E+02	3.6944E+02
RHO	8.9356E+00	2.5535E+01	3.2256E+01
M	6.4612E+02	1.0984E+03	1.5566E+03
A	2.0496E+01	3.0272E+01	3.9521E+01
S	2.7291E+00	2.8157E+00	2.9361E+00
Z	3.3739E+00	3.6254E+00	3.7625E+00
GAME	1.0025E+00	1.0148E+00	1.1237E+00
U	4.8169E+01	1.6849E+01	1.8464E+01

SPECIES

MOLE FRACTIONS

E-	4.6647E-01	5.0351E-01	5.2159E-01
HE	1.1739E-02	1.6188E-03	1.4204E-04
HE+	4.7537E-02	3.6830E-02	6.7016E-03
HE++	5.3220E-06	1.6716E-02	4.6313E-02
H	5.5322E-02	9.0916E-03	2.9872E-03
H+	4.1892E-01	4.3324E-01	4.2224E-01
H2	7.4129E-07	3.0473E-09	5.0122E-09

PI = 5.00E+03 N/SEC USI = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9611E+01	5.2095E+01	1.1500E+02
T	4.4965E+00	5.9043E+00	8.0909E+00
RHO	4.4957E+00	8.8212E+00	1.4289E+01
M	4.5641E+00	6.2440E+00	8.9154E+00
A	2.0733E+00	2.3768E+00	2.7302E+00
S	1.1039E+00	1.1087E+00	1.1317E+00
Z	1.0000E+00	1.0000E+00	1.0017E+00
GAME	9.7552E-01	9.5675E-01	9.1974E-01
U	3.1952E+00	1.6268E+00	1.4679E+00

SPECIES	MOLE FRACTIONS
E-	6.1814E-37
HE	2.0000E-01
HE+	1.0679E-54
ME+	0.
M	7.1957E-07
M+	7.2402E-20
M2	1.0000E-01

PI = 5.00E+03 N/SEC USI = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.8752E+01	8.8746E+01	1.8061E+02
T	5.8449E+00	8.0801E+00	1.0252E+01
RHO	4.9193E+00	1.0963E+01	1.7581E+01
M	6.1762E+00	8.9145E+00	1.2319E+01
A	2.3653E+00	2.7252E+00	3.0057E+00
S	1.1379E+00	1.1457E+00	1.1709E+00
Z	1.0000E+00	1.0019E+00	1.0147E+00
GAME	9.5712E-01	9.1738E-01	8.6843E-01
U	3.9248E+00	1.7620E+00	1.5536E+00

SPECIES	MOLE FRACTIONS
E-	3.5771E-22
HE	1.9999E-01
HE+	3.9542E-47
ME+	0.
M	8.8690E-05
M+	7.2041E-20
M2	7.9992E-01

PI = 5.00E+03 N/SEC USI = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.4215E+01	2.1563E+02	3.7057E+02
T	6.9612E+00	1.1871E+01	1.3504E+01
RHO	5.7862E+00	1.7367E+01	2.5132E+01
M	1.0311E+01	1.6150E+01	2.0804E+01
A	2.8210E+00	3.2384E+00	3.5230E+00
S	1.2012E+00	1.2194E+00	1.2514E+00
Z	1.0070E+00	1.0459E+00	1.0059E+00
GAME	8.8159E-01	8.4464E-01	8.4231E-01
U	5.4370E+00	1.8093E+00	1.0250E+00

SPECIES	MOLE FRACTIONS
E-	7.6714E-14
HE	1.9999E-01
HE+	1.7234E-24
ME+	3.2029E-90
M	1.4987E-02
M+	1.6715E-14
M2	7.2102E-01

PI = 5.00E+03 N/SEC USI = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7114E+01	3.1924E+02	5.1902E+02
T	1.0250E+01	1.3410E+01	1.5024E+01
RHO	6.3938E+00	2.1810E+01	3.0124E+01
M	1.2851E+01	2.0754E+01	2.6150E+01
A	2.4966E+00	3.5087E+00	3.8232E+00
S	1.2952E+00	1.2952E+00	1.2952E+00
Z	1.0241E+00	1.0915E+00	1.0676E+00
GAME	8.4983E-01	8.4106E-01	8.4694E-01
U	6.2389E+00	1.8280E+00	1.0601E+00

SPECIES	MOLE FRACTIONS
E-	2.8237E-12
HE	1.9330E-01
HE+	8.8922E-22
ME+	0.
M	4.7094E-02
M+	5.8237E-14
M2	7.5766E-01

Table II. - Continued

$$p_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/50-M, US1= 1.00E+04 M/SEC				P1 = 5.00E+03 N/50-M, US1= 1.30E+04 M/SEC					
		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P		8.40E+01	4.5459E+02	7.140E+02	P		1.46E+02	1.0374E+03	1.5690E+03
T		1.13E+01	1.4870E+01	1.630E+01	T		1.33E+01	1.9347E+01	2.20E+01
RHJ		7.07E+00	2.650E+01	3.53E+01	RHJ		8.90E+00	3.9023E+01	7.790E+01
M		1.5690E+01	2.5970E+01	3.22E+01	M		2.00E+01	4.4981E+01	5.52E+01
A		3.13E+00	3.800E+00	4.16E+00	A		3.09E+00	4.8624E+00	5.470E+00
S		1.20E+00	1.301E+00	1.34E+00	S		1.370E+00	1.4356E+00	1.480E+00
Z		1.05E+00	1.1491E+00	1.219E+00	Z		1.11E+00	1.3740E+00	1.480E+00
NAME		8.30E+01	8.454E+01	8.56E+01	NAME		8.30E+01	8.82E+01	9.13E+01
U		7.050E+00	1.874E+00	1.76E+00	U		9.440E+00	2.181E+00	2.16E+00
SPECIES				SPECIES					
		MOLE FRACTIONS				MOLE FRACTIONS			
E-		9.31E-11	2.301E-08	1.49E-07	E-		1.21E-08	1.795E-06	9.71E-06
HE		1.90E-01	1.740E-01	1.63E-01	HE		1.70E-01	1.455E-01	1.34E-01
HE+		1.50E-25	1.010E-19	8.33E-18	HE+		9.08E-21	2.38E-15	1.4E-13
HE++		U.	5.330E-72	6.00E-05	HE++		9.08E-77	5.09E-56	8.11E-49
M		9.50E-02	2.59E-01	3.60E-01	M		2.92E-01	5.44E-01	6.50E-01
M+		9.31E-11	2.301E-08	1.49E-07	M+		1.21E-08	1.795E-06	9.71E-06
M2		7.13E-01	5.66E-01	4.73E-01	M2		2.370E-01	3.100E-01	2.09E-01

P1 = 5.00E+03 N/SU-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0297E+02	6.2064E+02	9.5450E+02
T	1.2250E+01	1.0311E+01	1.0179E+01
RHO	7.7400E+00	3.1203E+01	4.0302E+01
M	1.0000E+01	3.1767E+01	3.9147E+01
A	3.3242E+00	4.1168E+00	4.5357E+00
S	1.2900E+00	1.3447E+00	1.3809E+00
Z	1.0042E+00	1.2163E+00	1.3000E+00
GAME	0.3167E-01	0.5424E-01	0.7014E-01
U	7.8720E+00	1.9508E+00	1.8600E+00

SPECIES	MOLE FRACTIONS
E-	0.9105E-10
HE	1.0443E-01
HE+	1.1970E-23
HE++	0.5407E-07
H	1.5520E-01
H+	0.9105E-10
H2	0.0027E-01

P1 = 5.00E+03 N/SU-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2372E+02	8.1607E+02	1.2398E+02
T	1.3115E+01	1.7706E+01	1.9950E+01
RHO	8.3810E+00	3.5516E+01	4.4059E+01
M	2.2290E+01	3.8109E+01	4.6790E+01
A	3.5020E+00	4.4610E+00	4.9659E+00
S	1.3330E+00	1.3897E+00	1.4303E+00
Z	1.1247E+00	1.2919E+00	1.3941E+00
GAME	0.3179E-01	0.6039E-01	0.8829E-01
U	0.6051E+00	2.0519E+00	2.0077E+00

SPECIES	MOLE FRACTIONS
E-	3.3023E-09
HE	1.7706E-01
HE+	3.5135E-22
HE++	9.6307E-01
H	4.2179E-01
H+	3.4023E-09
H2	0.0039E-01

P1 = 5.00E+03 N/SU-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7062E+02	1.2804E+03	1.9436E+03
T	1.4731E+01	2.1069E+01	2.4611E+01
RHO	9.4724E+00	4.1603E+01	4.9740E+01
M	3.0000E+01	5.2366E+01	6.4634E+01
A	3.8801E+00	5.2701E+00	6.0411E+00
S	1.4000E+00	1.4619E+00	1.5390E+00
Z	1.2220E+00	1.4607E+00	1.5870E+00
GAME	0.3925E-01	9.0243E-01	9.5049E-01
U	1.0290E+01	2.3443E+00	2.4100E+00

SPECIES	MOLE FRACTIONS
E-	5.7220E-08
HE	1.0350E-01
HE+	0.1427E-20
HE++	0.1430E-14
H	3.0442E-01
H+	5.7220E-08
H2	0.7220E-01

P1 = 5.00E+03 N/SU-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9072E+02	1.5385E+03	2.3700E+03
T	1.5549E+01	2.3044E+01	2.8204E+01
RHO	9.9039E+00	4.3073E+01	4.9897E+01
M	3.4901E+01	6.0232E+01	7.5101E+01
A	4.0970E+00	5.7634E+00	6.9190E+00
S	1.4973E+00	1.5278E+00	1.5907E+00
Z	1.2791E+00	1.5486E+00	1.6001E+00
GAME	0.4542E-01	9.2997E-01	1.0077E+00
U	1.1301E+01	2.5493E+00	2.7433E+00

SPECIES	MOLE FRACTIONS
E-	1.0095E-07
HE	1.5034E-01
HE+	7.1000E-19
HE++	5.4972E-09
H	4.2030E-01
H+	1.0095E-07
H2	0.7201E-01

Table II. - Continued

$$P_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/30-M. US1= 1.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2447E+02	1.8006E+03	4.8500E+03
T	1.0339E+01	2.5525E+01	3.3933E+01
MW	1.0243E+01	4.3220E+01	4.8057E+01
M	3.9028E+01	6.8533E+01	8.7230E+01
A	4.3244E+00	6.3533E+00	7.9047E+00
S	1.4007E+00	1.5726E+00	1.6401E+00
Z	1.3402E+00	1.6321E+00	1.7477E+00
NAME	6.5322E-01	9.8891E-01	1.0657E+00
U	1.1804E+01	2.8126E+00	3.2143E+00
P1 = 3.00E+03 N/30-M. US1= 1.90E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1705E+02	2.4980E+03	4.3910E+03
T	1.9230E+01	3.8170E+01	5.4770E+01
MW	1.9710E+01	3.6797E+01	4.3650E+01
M	5.4009E+01	9.5403E+01	1.2810E+02
A	5.1433E+00	8.5482E+00	9.9594E+00
S	1.6100E+00	1.6908E+00	1.7504E+00
Z	1.5419E+00	1.7785E+00	1.8309E+00
NAME	8.9713E-01	1.0764E+00	9.8764E-01
U	1.4154E+01	4.1168E+00	4.6019E+00
SPECIES			
MOL FRACTIONS			
LE	3.3491E-06	2.6896E-03	2.4995E-04
HE	1.2971E-01	1.1246E-01	1.0802E-01
HC	2.7193E-15	1.4928E-08	2.0024E-05
HE+	1.1324E-57	1.4987E-27	1.1437E-18
H	7.0280E-01	8.6737E-01	8.3623E-01
H+	3.3841E-06	2.6895E-03	2.4994E-04
H2	1.6740E-01	1.4798E-02	4.9205E-03
P1 = 3.00E+03 N/30-M. US1= 1.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2447E+02	1.8006E+03	4.8500E+03
T	1.0339E+01	2.5525E+01	3.3933E+01
MW	1.0243E+01	4.3220E+01	4.8057E+01
M	3.9028E+01	6.8533E+01	8.7230E+01
A	4.3244E+00	6.3533E+00	7.9047E+00
S	1.4007E+00	1.5726E+00	1.6401E+00
Z	1.3402E+00	1.6321E+00	1.7477E+00
NAME	6.5322E-01	9.8891E-01	1.0657E+00
U	1.1804E+01	2.8126E+00	3.2143E+00
SPECIES			
MOL FRACTIONS			
LE	2.2447E-07	6.0695E-05	9.1305E-04
HE	1.4723E-01	1.2254E-01	1.1444E-01
HC	0.5591E-18	1.0167E-11	8.2528E-09
HE+	2.6774E-62	5.0964E-42	2.5393E-31
H	5.0709E-01	7.7442E-01	8.3600E-01
H+	2.5447E-07	6.0694E-05	9.1284E-04
H2	3.4308E-01	1.0292E-01	3.0049E-02

PI = 5.00E+03 N/30-M, US1= 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5102E+02	2.6873E+03	4.8393E+03
T	4.0153E+01	4.3439E+01	6.0102E+01
AMJ	1.0000E+01	3.4420E+01	4.3099E+01
M	6.0000E+01	1.0500E+02	1.4198E+02
A	5.5016E+00	9.0406E+00	1.0041E+01
S	1.6515E+00	1.7236E+00	1.7874E+00
Z	1.6109E+00	1.7973E+00	1.8603E+00
NAME	9.1508E+01	1.0409E+00	9.6601E+01
U	1.4889E+01	4.5996E+00	4.8800E+00

SPECIES	MOLE FRACTIONS
E-	6.9950E-03
HE	1.1128E-01
HE+	9.5203E-07
H	5.9641E-24
M	8.6625E-01
M+	6.9940E-03
M2	8.4835E-03

PI = 5.00E+03 N/30-M, US1= 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8071E+02	2.8542E+03	5.2076E+03
T	4.2152E+01	4.8420E+01	6.4742E+01
AMJ	1.0017E+01	3.2458E+01	4.2200E+01
M	6.0251E+01	1.1502E+02	1.5592E+02
A	5.9452E+00	9.4244E+00	1.0839E+01
S	1.6719E+00	1.7548E+00	1.8103E+00
Z	1.6739E+00	1.8161E+00	1.9031E+00
NAME	9.2413E+01	1.0111E+00	9.5392E+01
U	1.5599E+01	5.0015E+00	5.1030E+00

SPECIES	MOLE FRACTIONS
E-	1.4356E-02
HE	1.1012E-01
HE+	5.3873E-06
H	2.9612E-21
M	8.5570E-01
M+	1.4351E-02
M2	5.4693E-03

PI = 5.00E+03 N/30-M, US1= 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5397E+02	2.0599E+03	3.3715E+03
T	1.7221E+01	2.8765E+01	4.1334E+01
AMJ	1.0000E+01	4.1902E+01	4.5720E+01
M	6.3949E+01	7.7208E+01	1.0059E+02
A	4.5091E+00	7.0732E+00	8.8050E+00
S	1.5282E+00	1.6153E+00	1.6846E+00
Z	1.4049E+00	1.7024E+00	1.7838E+00
NAME	8.6292E+01	1.0217E+00	1.0659E+00
U	1.4630E+01	3.1595E+00	3.7611E+00

SPECIES	MOLE FRACTIONS
E-	2.1579E-04
HE	1.1748E-01
HE+	2.1404E-10
H	3.0842E-37
M	8.2456E-01
M+	2.1579E-04
M2	5.7526E-02

PI = 5.00E+03 N/30-M, US1= 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8505E+02	2.2889E+03	3.6955E+03
T	1.8105E+01	3.3066E+01	4.8501E+01
AMJ	1.0057E+01	3.9538E+01	4.4357E+01
M	4.9104E+01	8.6165E+01	1.1450E+02
A	4.4038E+00	7.8704E+00	9.4700E+00
S	1.5073E+00	1.6550E+00	1.7224E+00
Z	1.4725E+00	1.7508E+00	1.8093E+00
NAME	8.7533E+01	1.0700E+00	1.0221E+00
U	1.3642E+01	3.6110E+00	4.2394E+00

SPECIES	MOLE FRACTIONS
E-	1.4201E-06
HE	1.1423E-01
HE+	5.2209E-09
H	4.2022E-32
M	8.5522E-01
M+	8.0946E-04
M2	2.8922E-02

Table II. - Continued

$$P_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/SQ-M, US1 = 2.20E+04 M/SEC				P1 = 5.00E+03 N/SQ-M, US1 = 2.50E+04 M/SEC			
		MOVING SHOCK		MOVING SHOCK		STANDING SHOCK	
		REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK	
		MOLE FRACTIONS		MOLE FRACTIONS		MOLE FRACTIONS	
		SPECIES		SPECIES		SPECIES	
P	4.2242E+02	2.4528E-02	1.4344E-02	P	5.3249E+02	3.1739E+03	5.4294E+03
T	2.4401E+01	1.0879E-01	1.0201E-01	T	3.2095E+01	6.3665E+01	7.6294E+01
RMU	1.0000E+01	1.9575E-05	4.0001E-04	RMU	4.3043E+00	2.5914E+01	3.4914E+01
M	1.2802E+01	2.9659E-19	2.0707E-14	M	9.3376E+01	1.5846E+02	2.1113E+02
A	6.5222E+00	8.3831E-01	1.6004E-01	A	1.0730E+01	1.0730E+01	1.2204E+01
S	1.7297E+00	2.4509E-02	1.4301E-02	S	1.8260E+00	1.8745E+00	1.9441E+00
Z	1.0077E+00	2.4509E-02	1.4301E-02	Z	1.7977E+00	1.9238E+00	2.0610E+00
NAME	1.0077E+00	2.4509E-02	1.4301E-02	NAME	1.0690E+00	9.4000E-01	9.3254E-01
U	1.0077E+00	2.4509E-02	1.4301E-02	U	1.0069E+00	5.7861E+00	5.6352E+00

PI = 5.00E+03 N/50-M. US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.7299E+02	3.3003E+03	5.7874E+03
T	3.9744E+01	6.6863E+01	6.1243E+01
THU	7.9646E+00	2.5205E+01	3.3839E+01
M	1.0079E+02	1.7059E+02	2.2607E+02
A	8.5933E+00	1.1058E+01	1.2616E+01
S	1.8523E+00	1.9019E+00	1.9687E+00
Z	1.8094E+00	1.9583E+00	2.1050E+00
WAME	1.0272E+00	9.3393E-01	9.3069E-01
U	1.8884E+01	5.9022E+00	5.7521E+00

SPECIES	MOLE FRACTIONS
C-	7.7650E-03
HE	1.0175E-01
HE+	3.7918E-04
HE++	1.1347E-14
H	7.3235E-01
H+	8.1864E-02
H2	1.4174E-03
	1.4500E-01
	9.2779E-02
	2.2541E-03
	9.1930E-12
	6.1455E-01
	1.4364E-01
	9.7700E-04

PI = 5.00E+03 N/50-M. US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.1501E+02	3.4808E+03	6.0650E+03
T	4.3439E+01	7.0026E+01	8.4332E+01
THU	7.7730E+00	2.4910E+01	3.3350E+01
M	1.0052E+02	1.8347E+02	2.4205E+02
A	8.8241E+00	1.1400E+01	1.2985E+01
S	1.8769E+00	1.9281E+00	1.9961E+00
Z	1.8230E+00	1.9955E+00	2.1500E+00
WAME	9.8994E-01	9.3006E-01	9.2960E-01
U	1.9335E+01	6.0282E+00	5.8812E+00

SPECIES	MOLE FRACTIONS
C-	1.9555E-02
HE	1.0470E-01
HE+	1.9086E-06
HE++	6.2283E-04
H	6.8204E-14
H+	7.0094E-01
H2	9.8514E-02
	1.8833E-03
	9.9137E-02
	9.9605E-02
	3.1006E-03
	3.0010E-11
	5.8140E-01
	1.6004E-01
	8.2520E-04

PI = 5.00E+03 N/50-M. US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5822E+02	3.0525E+03	5.5470E+03
T	4.7501E+01	5.6846E+01	7.2109E+01
THU	4.4248E+00	2.8816E+01	3.8825E+01
M	7.9444E+01	1.3607E+02	1.8348E+02
A	7.2134E+00	1.0099E+01	1.1502E+01
S	1.7031E+00	1.8157E+00	1.8794E+00
Z	1.7009E+00	1.8635E+00	1.9707E+00
WAME	1.0679E+00	9.6285E-01	9.3924E-01
U	1.8894E+01	5.5224E+00	5.4144E+00

SPECIES	MOLE FRACTIONS
C-	4.9024E-04
HE	1.1320E-01
HE+	1.5728E-10
HE++	5.2360E-05
H	9.8050E-18
H+	8.1604E-01
H2	3.6870E-02
	2.8412E-03
	9.2122E-02
	1.0039E-01
	6.8646E-04
	1.3492E-13
	7.1361E-01
	9.1422E-02
	1.7806E-03

PI = 5.00E+03 N/50-M. US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9505E+02	3.1007E+03	5.5702E+03
T	3.1678E+01	6.0376E+01	7.5243E+01
THU	8.8044E+00	2.7141E+01	3.6639E+01
M	8.6273E+01	1.4703E+02	1.9709E+02
A	7.8416E+00	1.0413E+01	1.1922E+01
S	1.7974E+00	1.8457E+00	1.9104E+00
Z	1.7602E+00	1.8922E+00	2.0192E+00
WAME	1.0434E+00	9.4920E-01	9.3537E-01
U	1.7683E+01	5.6693E+00	5.5270E+00

SPECIES	MOLE FRACTIONS
C-	1.1108E-03
HE	1.1147E-01
HE+	3.5709E-09
HE++	1.3796E-04
H	1.5408E-16
H+	7.9043E-01
H2	5.0788E-02
	2.1834E-03
	5.0902E-02
	1.8558E-01
	6.4647E-13
	6.8001E-01
	1.0093E-03
	9.7461E-02
	1.0499E-01
	1.4394E-05

$$p_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/30-M. US1 = 2.80E+04 P/SEC			
	MUOVING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	6.6075E+02	3.7089E+03	6.5909E+03
T	9.6709E+01	7.3176E+01	8.7586E+01
THU	7.6761E+00	2.4906E+01	3.3109E+02
M	1.1659E+02	1.9710E+02	2.5907E+02
A	9.1024E+00	1.1754E+01	1.5374E+01
S	1.9002E+00	1.9535E+00	2.0232E+00
Z	1.0602E+00	2.0351E+00	2.1999E+00
NAME	9.6254E-01	9.2771E-01	9.2894E-01
U	2.0011E+01	6.1630E+00	6.0217E+00

P1 = 3.00E+03 N/30-M. US1 = 3.20E+04 P/SEC			
	MUOVING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	6.6380E+02	4.9650E+03	8.3708E+03
T	5.7558E+01	8.5673E+01	1.0102E+02
THU	7.7400E+00	2.6201E+01	3.4363E+02
M	1.5200E+02	2.5834E+02	3.3602E+02
A	1.0107E+01	1.3243E+01	1.5104E+01
S	1.9877E+00	2.0512E+00	2.1289E+00
Z	1.9376E+00	2.2119E+00	2.4093E+00
NAME	9.1002E-01	9.2549E-01	9.2992E-01
U	2.2901E+01	6.7570E+00	6.8622E+00

P1 = 5.00E+03 N/30-M. US1 = 2.80E+04 P/SEC			
	MUOVING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	6.6075E+02	3.7089E+03	6.5909E+03
T	9.6709E+01	7.3176E+01	8.7586E+01
THU	7.6761E+00	2.4906E+01	3.3109E+02
M	1.1659E+02	1.9710E+02	2.5907E+02
A	9.1024E+00	1.1754E+01	1.5374E+01
S	1.9002E+00	1.9535E+00	2.0232E+00
Z	1.0602E+00	2.0351E+00	2.1999E+00
NAME	9.6254E-01	9.2771E-01	9.2894E-01
U	2.0011E+01	6.1630E+00	6.0217E+00

P1 = 3.00E+03 N/30-M. US1 = 3.20E+04 P/SEC			
	MUOVING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	6.6380E+02	4.9650E+03	8.3708E+03
T	5.7558E+01	8.5673E+01	1.0102E+02
THU	7.7400E+00	2.6201E+01	3.4363E+02
M	1.5200E+02	2.5834E+02	3.3602E+02
A	1.0107E+01	1.3243E+01	1.5104E+01
S	1.9877E+00	2.0512E+00	2.1289E+00
Z	1.9376E+00	2.2119E+00	2.4093E+00
NAME	9.1002E-01	9.2549E-01	9.2992E-01
U	2.2901E+01	6.7570E+00	6.8622E+00

P1 = 5.00E+03 N/30-M. US1 = 2.80E+04 P/SEC			
	MUOVING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	6.6075E+02	3.7089E+03	6.5909E+03
T	9.6709E+01	7.3176E+01	8.7586E+01
THU	7.6761E+00	2.4906E+01	3.3109E+02
M	1.1659E+02	1.9710E+02	2.5907E+02
A	9.1024E+00	1.1754E+01	1.5374E+01
S	1.9002E+00	1.9535E+00	2.0232E+00
Z	1.0602E+00	2.0351E+00	2.1999E+00
NAME	9.6254E-01	9.2771E-01	9.2894E-01
U	2.0011E+01	6.1630E+00	6.0217E+00

P1 = 3.00E+03 N/30-M. US1 = 3.20E+04 P/SEC			
	MUOVING SHUCK	STANDING SHUCK	REFLECTED SHUCK
P	6.6380E+02	4.9650E+03	8.3708E+03
T	5.7558E+01	8.5673E+01	1.0102E+02
THU	7.7400E+00	2.6201E+01	3.4363E+02
M	1.5200E+02	2.5834E+02	3.3602E+02
A	1.0107E+01	1.3243E+01	1.5104E+01
S	1.9877E+00	2.0512E+00	2.1289E+00
Z	1.9376E+00	2.2119E+00	2.4093E+00
NAME	9.1002E-01	9.2549E-01	9.2992E-01
U	2.2901E+01	6.7570E+00	6.8622E+00

P1 = 5.00E+03 N/30-M. US1 = 2.80E+04 P/SEC			
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P1 = 5.00E+03 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.0031E+02	3.9704E+03	6.8105E+03
T	4.9775E+01	7.6319E+01	9.0903E+01
RND	7.6405E+00	2.5100E+01	3.3240E+01
M	1.2697E+02	2.1145E+02	2.7707E+02
A	9.3497E+00	1.2117E+01	1.3763E+01
S	1.9227E+00	1.9704E+00	2.0500E+00
Z	1.8610E+00	2.0768E+00	2.2503E+00
GAME	9.4371E-01	5.2638E-01	9.2070E-01
U	2.0714E+01	6.3062E+00	6.1720E+00

SPECIES	MOLE FRACTIONS
E-	3.3904E-02
HE	1.0745E-01
HE+	1.6404E-05
HE++	5.3797E-20
H	6.2361E-01
H+	3.3489E-02
H2	1.1220E-03

P1 = 5.00E+03 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.0031E+02	3.9704E+03	6.8105E+03
T	4.9775E+01	7.6319E+01	9.0903E+01
RND	7.6405E+00	2.5100E+01	3.3240E+01
M	1.2697E+02	2.1145E+02	2.7707E+02
A	9.3497E+00	1.2117E+01	1.3763E+01
S	1.9227E+00	1.9704E+00	2.0500E+00
Z	1.8610E+00	2.0768E+00	2.2503E+00
GAME	9.4371E-01	5.2638E-01	9.2070E-01
U	2.0714E+01	6.3062E+00	6.1720E+00

SPECIES	MOLE FRACTIONS
E-	3.3904E-02
HE	1.0745E-01
HE+	1.6404E-05
HE++	5.3797E-20
H	6.2361E-01
H+	3.3489E-02
H2	1.1220E-03

P1 = 5.00E+03 N/SQ-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0000E+03	6.5926E+03	1.1000E+04
T	6.6342E+01	9.8073E+01	1.1501E+02
RND	9.0203E+00	2.7932E+01	3.6040E+01
M	1.4235E+02	3.2901E+02	4.2637E+02
A	1.1144E+01	1.4744E+01	1.0920E+01
S	2.0723E+00	2.1688E+00	2.2320E+00
Z	2.0047E+00	2.4066E+00	2.6340E+00
GAME	9.0070E-01	9.2730E-01	9.5940E-01
U	2.5040E+01	7.4323E+00	7.3970E+00

SPECIES	MOLE FRACTIONS
E-	1.2054E-01
HE	9.6201E-02
HE+	1.0359E-02
HE++	6.0643E-14
H	6.4019E-01
H+	1.2708E-01
H2	3.7674E-04

P1 = 5.00E+03 N/SQ-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5001E+02	4.2774E+03	7.2812E+03
T	5.2565E+01	7.9441E+01	9.4271E+01
RND	7.6242E+00	2.5394E+01	3.3531E+01
M	1.3337E+02	2.2644E+02	2.9594E+02
A	9.6010E+00	1.2487E+01	1.4197E+01
S	1.9449E+00	2.0029E+00	2.0708E+00
Z	1.8645E+00	2.1204E+00	2.3024E+00
GAME	9.4071E-01	9.2570E-01	9.2879E-01
U	2.1431E+01	6.4541E+00	6.3267E+00

SPECIES	MOLE FRACTIONS
E-	4.5750E-02
HE	1.5103E-01
HE+	9.2229E-02
HE++	2.0948E-03
H	5.8872E-12
H+	6.0337E-01
H2	1.4974E-01
H2	7.4162E-04

Table II. - Continued

$$P_1 = 5 \text{ KN/m}^2$$

P1 = 2.00E+03 N/30-M, US1= 3.80E+04 M/SEC				P1 = 5.00E+03 N/30-M, US1= 4.40E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.4270E+03	7.5146E+03	1.251E+04	P	1.6244E+03	1.0591E+04	1.7759E+04
T	7.0377E+01	1.0434E+02	1.2377E+02	T	8.1945E+01	1.2431E+02	1.5327E+02
MMU	8.1660E+00	2.8722E+01	3.6793E+01	MMU	8.5230E+00	3.0260E+01	3.7444E+01
M	2.1432E+02	3.6762E+02	4.7619E+02	M	2.8736E+02	4.9566E+02	6.4672E+02
A	1.1671E+01	1.5597E+01	1.7973E+01	A	1.3242E+01	1.8256E+01	2.1402E+01
S	2.1140E+00	2.1944E+00	2.2852E+00	S	2.2412E+00	2.3361E+00	2.4404E+00
Z	2.1350E+00	2.5075E+00	2.7401E+00	Z	2.3687E+00	2.8158E+00	3.0944E+00
WAME	9.0631E-01	9.2982E-01	9.4975E-01	WAME	9.3017E-01	9.5217E-01	1.0077E+00
U	2.7401E+01	7.7860E+00	7.8132E+00	U	3.1942E+01	8.9871E+00	9.0009E+00
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	1.5743E-01	2.8240E-01	3.4212E-01	E-	2.4022E-01	3.6084E-01	4.1839E-01
He	9.2532E-02	6.4911E-02	4.4522E-02	He	7.5962E-02	4.0694E-02	2.2717E-02
Ne	1.1200E-03	1.4850E-02	2.8492E-02	Ne	4.0037E-03	3.0333E-02	4.1898E-02
Ar	2.5780E-13	1.4054E-08	4.7700E-07	Ar	5.1401E-11	6.3024E-07	1.6232E-05
N	2.4232E-01	3.7005E-01	2.6503E-01	N	4.3906E-01	2.3752E-01	1.4059E-01
O	1.5031E-01	6.6759E-01	3.1690E-01	O	2.5561E-01	3.3051E-01	3.7444E-01
Hz	2.5529E-06	2.4374E-04	1.4322E-04	Hz	1.3962E-04	9.6482E-05	3.7855E-05

PI = 5.00E+03 N/50-M. US1= 4.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0130E+03	1.1687E+04	1.9703E+04
T	0.5733E+01	1.3174E+02	1.6653E+02
AMU	0.0147E+00	3.0401E+01	3.7043E+01
M	3.1907E+02	5.4213E+02	7.1227E+02
A	1.3843E+01	1.9271E+01	2.3459E+01
S	2.2830E+00	2.3826E+00	2.4927E+00
Z	2.4511E+00	2.9180E+00	3.2037E+00
WANE	9.1271E-01	9.6610E-01	1.0344E+00
U	3.3411E+01	9.4641E+00	1.0122E+01

SPECIES	MOLE FRACTIONS
C-	4.0576E-01
HE	7.4913E-02
ME+	0.0014E-03
HE++	4.1502E-10
M	5.9347E-01
M+	2.5907E-01
M2	1.0823E-04
	3.8321E-01
	3.3510E-02
	3.5021E-02
	1.8661E-00
	1.9999E-01
	3.4819E-01
	6.7109E-05
	4.3040E-01
	1.7703E-02
	4.4003E-02
	6.2249E-05
	1.0001E-01
	3.9330E-01
	2.0705E-05

PI = 3.00E+03 N/50-M. US1= 4.80E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9737E+03	1.2900E+04	2.1900E+04
T	0.9549E+01	1.3982E+02	1.8213E+02
AMU	0.0099E+00	3.0330E+01	3.6430E+01
M	3.4197E+02	5.9038E+02	7.8227E+02
A	1.4400E+01	2.0371E+01	2.5244E+01
S	2.3200E+00	2.4285E+00	2.5427E+00
Z	2.5322E+00	3.0181E+00	3.3003E+00
WANE	9.1903E-01	9.8335E-01	1.0594E+00
U	3.4904E+01	9.9950E+00	1.0944E+01

SPECIES	MOLE FRACTIONS
C-	2.9907E-01
HE	0.4575E-02
ME+	0.0152E-03
HE++	0.0024E-10
M	3.5027E-01
M+	2.8076E-01
M2	0.3301E-05
	4.0365E-01
	2.7215E-02
	3.9046E-02
	5.2719E-00
	1.8545E-01
	3.6459E-01
	6.4794E-05
	4.5401E-01
	1.3040E-02
	4.6401E-02
	2.0034E-04
	7.7435E-02
	4.0702E-01
	1.0440E-05

PI = 5.00E+03 N/50-M. US1= 4.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3025E+03	0.4947E+03	1.4100E+04
T	2.4291E+01	1.1074E+02	1.3243E+02
AMU	0.2977E+00	2.9394E+01	3.7243E+01
M	2.3700E+02	4.0031E+02	5.2940E+02
A	1.2204E+01	1.6432E+01	1.9134E+01
S	2.1507E+00	2.2410E+00	2.3375E+00
Z	2.2103E+00	2.6097E+00	2.8647E+00
WANE	9.0709E-01	9.3430E-01	9.6407E-01
U	2.0900E+01	0.1579E+00	0.2803E+00

SPECIES	MOLE FRACTIONS
C-	1.0505E-01
HE	0.0500E-02
ME+	1.9005E-03
HE++	1.8510E-12
M	5.3999E-01
M+	1.0394E-01
M2	2.2931E-04
	3.1045E-01
	5.6720E-02
	1.9009E-02
	5.4400E-00
	3.2210E-01
	2.9094E-01
	1.8242E-04
	3.7175E-01
	3.6100E-02
	3.3635E-02
	1.6000E-00
	2.2044E-01
	3.3011E-01
	9.7020E-05

PI = 5.00E+03 N/50-M. US1= 4.20E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5030E+03	9.5237E+03	1.5801E+04
T	7.0430E+01	1.1735E+02	1.4217E+02
AMU	0.0101E+00	2.9917E+01	3.7494E+01
M	2.6103E+02	4.5101E+02	5.8019E+02
A	1.2744E+01	1.7314E+01	2.0424E+01
S	2.1409E+00	2.2891E+00	2.3893E+00
Z	2.4802E+00	2.7127E+00	2.9814E+00
WANE	9.0049E-01	9.4164E-01	9.8444E-01
U	3.0413E+01	0.5948E+00	0.8023E+00

SPECIES	MOLE FRACTIONS
C-	2.1354E-01
HE	0.4300E-02
ME+	1.0424E-03
HE++	1.0001E-11
M	4.8042E-01
M+	2.1140E-01
M2	1.7924E-04
	3.3459E-01
	4.8530E-02
	2.5191E-02
	1.9814E-07
	2.7815E-01
	3.1140E-01
	1.3420E-04
	3.9027E-01
	2.8030E-02
	3.8235E-02
	5.6027E-00
	1.7807E-01
	3.5801E-01
	6.2770E-05

Table II. - Continued

$$P_1 = 5 \text{ KN/m}^2$$

P1 = 5.00E+03 N/30-M. US1 = 5.00E+04 M/SEC				P1 = 5.00E+03 N/30-M. US1 = 5.00E+04 P/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	-----				-----		
E-	3.1311E-01	4.2217E-01	4.6770E-01	E-	3.7441E-01	4.6337E-01	4.9217E-01
HE	6.3799E-02	2.1855E-02	1.0844E-02	HE	4.4472E-02	1.1334E-02	5.0184E-02
HE+	1.2529E-02	4.2337E-02	4.7608E-02	HE+	2.5036E-02	4.8018E-02	4.1241E-02
HE++	2.7345E-03	1.4566E-05	6.8742E-04	HE++	8.4420E-03	2.7421E-04	1.0488E-02
H	3.0992E-01	1.3380E-01	5.4312E-02	H	4.0684E-01	6.2195E-02	2.0724E-02
H+	3.0054E-01	3.7980E-01	4.1878E-01	H+	3.4937E-01	4.1480E-01	4.3488E-01
H2	6.3382E-03	2.8341E-03	4.9149E-03	H2	2.8372E-03	5.3154E-03	6.3437E-03
P	4.1434E+03	1.3912E+04	2.4159E+04	P	4.0922E+03	1.7145E+04	3.1344E+04
T	9.3400E+01	1.4880E+02	2.0050E+02	T	1.0381E+02	1.8239E+02	2.6334E+02
MND	8.7500E+00	3.0015E+01	3.5617E+01	MND	8.8431E+00	2.8025E+01	3.3300E+01
M	3.7104E+02	6.4023E+02	8.5604E+02	M	4.6532E+02	7.9853E+02	1.0990E+03
A	1.9482E+01	2.1568E+01	2.7024E+01	A	1.8822E+01	2.5553E+01	3.1164E+01
S	2.3685E+00	2.4739E+00	2.5914E+00	S	2.4921E+00	2.6007E+00	2.7214E+00
Z	4.8203E+00	3.1149E+00	3.3814E+00	Z	4.8771E+00	3.3542E+00	3.5442E+00
NAME	9.1642E-01	1.0036E+00	1.0771E+00	NAME	9.2946E-01	1.0673E+00	1.0404E+00
U	3.6391E+01	1.0601E+01	1.1854E+01	U	4.0815E+01	1.2870E+01	1.4584E+01

P1 = 5.00E+03 N/30-M, US1 = 5.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.319E+03	1.5019E+04	2.0531E+04
T	9.7457E+01	1.5870E+02	2.213E+02
AMD	8.7970E+00	2.9539E+01	3.4703E+01
M	9.0130E+02	6.9168E+02	9.354E+02
A	1.5572E+01	2.2835E+01	2.8625E+01
S	2.9109E+00	2.5173E+00	2.634E+00
Z	2.7000E+00	3.2030E+00	3.4473E+00
GAME	9.1920E-01	1.0255E-01	1.075E+00
U	3.7874E+01	1.1275E+01	1.2838E+01

SPECIES	MOLE FRACTIONS
Li	3.5480E-01
NE	5.7610E-02
ME+	1.6244E-02
ME++	6.5407E-09
M	2.7262E-01
M+	3.1820E-01
M2	4.8037E-05

P1 = 5.00E+03 N/30-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.319E+03	1.5019E+04	2.0531E+04
T	9.7457E+01	1.5870E+02	2.213E+02
AMD	8.7970E+00	2.9539E+01	3.4703E+01
M	9.0130E+02	6.9168E+02	9.354E+02
A	1.5572E+01	2.2835E+01	2.8625E+01
S	2.9109E+00	2.5173E+00	2.634E+00
Z	2.7000E+00	3.2030E+00	3.4473E+00
GAME	9.1920E-01	1.0255E-01	1.075E+00
U	3.7874E+01	1.1275E+01	1.2838E+01

SPECIES	MOLE FRACTIONS
Li	3.5480E-01
NE	5.7610E-02
ME+	1.6244E-02
ME++	6.5407E-09
M	2.7262E-01
M+	3.1820E-01
M2	4.8037E-05

P1 = 5.00E+03 N/30-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0885E+03	1.9049E+04	3.6041E+04
T	1.1522E+02	2.1084E+02	3.0410E+02
AMD	8.7970E+00	2.6115E+01	3.2662E+01
M	5.3395E+02	9.1000E+02	1.2711E+03
A	1.6244E+01	2.8060E+01	3.871E+01
S	2.5791E+00	2.6778E+00	2.7962E+00
Z	3.0472E+00	3.4594E+00	3.6287E+00
GAME	9.001E-01	1.0794E+00	1.0396E+00
U	4.3703E+01	1.4729E+01	1.8117E+01

SPECIES	MOLE FRACTIONS
Li	4.0093E-01
NE	3.1267E-02
ME+	7.4504E-03
ME++	4.8722E-02
M	1.6413E-03
M+	3.4838E-02
M2	4.2767E-01

P1 = 5.00E+03 N/30-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5033E+03	1.6091E+04	2.8938E+04
T	1.0120E+02	1.7000E+02	2.4204E+02
AMD	8.6271E+00	2.8810E+01	3.4077E+01
M	4.2273E+02	7.4441E+02	1.0172E+03
A	1.6184E+01	2.4194E+01	2.9972E+01
S	2.9233E+00	2.5605E+00	2.6810E+00
Z	2.7920E+00	3.2855E+00	3.4942E+00
GAME	9.2370E-01	1.0481E+00	1.0500E+00
U	3.9331E+01	1.2051E+01	1.3701E+01

SPECIES	MOLE FRACTIONS
Li	3.5533E-01
NE	5.1112E-02
ME+	4.4028E-02
ME++	6.5407E-09
M	2.7262E-01
M+	3.1820E-01
M2	4.8037E-05

PI = 5.00E+03 N/30-M. US1= 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1815E+03	2.3025E+04	4.6106E+04
T	1.4957E+02	2.8497E+02	4.3889E+02
RHO	8.1845E+00	2.2251E+01	2.8119E+01
M	7.2480E+02	1.2145E+03	1.7337E+03
A	2.3132E+01	3.2644E+01	4.3264E+01
S	2.7760E+00	2.8500E+00	2.9738E+00
Z	3.4078E+00	3.6313E+00	3.7591E+00
WAVE	1.0699E+00	1.0298E+00	1.1442E+00
U	5.0476E+01	1.8531E+01	2.0642E+01

SPECIES	MOLE FRACTIONS
E-	4.7178E-01
HE	5.0430E-01
HE+	2.1828E-03
HE++	3.1118E-02
H	2.1776E-02
H+	5.6336E-05
H2	4.8113E-02
	1.0986E-02
	4.2963E-01
	1.1799E-07
	1.0659E-06
	5.2118E-01
	1.6276E-04
	6.5009E-03
	4.6238E-02
	4.0594E-03
	4.2138E-01
	1.9973E-04

PI = 5.00E+03 N/30-M. US1= 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5032E+03	2.0813E+04	4.0494E+04
T	1.2804E+02	2.4124E+02	3.4694E+02
RHO	8.0420E+00	2.4414E+01	3.1373E+01
M	6.0708E+02	1.0273E+03	1.4531E+03
A	1.9927E+01	2.9904E+01	3.7302E+01
S	2.6607E+00	2.7492E+00	2.8694E+00
Z	3.2080E+00	3.5335E+00	3.6981E+00
WAVE	1.0790E+00	1.0491E+00	1.0782E+00
U	4.0202E+01	1.6454E+01	1.7704E+01

SPECIES	MOLE FRACTIONS
E-	4.3891E-01
HE	4.8514E-03
HE+	4.5158E-02
HE++	6.5916E-03
H	2.0553E-02
H+	4.3275E-01
H2	4.6443E-07
	5.1347E-01
	1.0221E-03
	1.7491E-02
	3.5911E-02
	8.3588E-03
	4.2630E-01
	9.4376E-06

PI = 5.00E+03 N/30-M. US1= 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7247E+03	2.1609E+04	4.2522E+04
T	1.3511E+02	2.5607E+02	3.7512E+02
RHO	8.5187E+00	2.3659E+01	3.0616E+01
M	6.4524E+02	1.0882E+03	1.5500E+03
A	2.0902E+01	3.0741E+01	3.9249E+01
S	2.7003E+00	2.7836E+00	2.9050E+00
Z	3.2820E+00	3.5669E+00	3.7249E+00
WAVE	1.0000E+00	1.0344E+00	1.1030E+00
U	4.7886E+01	1.7242E+01	1.8610E+01

SPECIES	MOLE FRACTIONS
E-	4.5158E-01
HE	4.9534E-01
HE+	3.8219E-03
HE++	4.1342E-02
H	1.0907E-02
H+	1.6373E-02
H2	4.3220E-01
	2.8235E-07
	4.9534E-01
	5.7658E-04
	1.2429E-02
	4.0634E-02
	6.5935E-03
	4.2495E-01
	5.6948E-06

Table II. - Continued

$$p_1 = 10 \text{ kN/m}^2$$

p1 = 1.00E+04 N/30-M. US1 = 4.00E+03 M/SEC			
	MUJING SHUKA	STANDING SHOKK	REFLECTED SHUKA
P	1.457E+01	2.6293E+01	6.5071E+01
T	3.175E+00	3.9838E+00	5.7050E+00
KNU	3.9001E+00	6.6009E+00	1.1400E+01
M	3.2407E+00	4.1057E+00	6.0150E+00
A	1.7739E+00	1.9770E+00	2.3400E+00
S	1.0712E+00	1.0733E+00	1.0950E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
NAME	9.9100E-01	9.8108E-01	9.5950E-01
U	2.4570E+00	1.4729E+00	1.3083E+00
SPECIES			
MOLE FRACTIONS			
C-	1.6494E-53	7.0099E-41	4.3194E-45
HE	2.0000E-01	2.0000E-01	2.0000E-01
HE+	1.1267E-63	2.2649E-56	4.5754E-47
HE++	0.	0.	0.
H	1.4303E-10	3.9537E-08	2.9194E-05
H+	7.2402E-20	7.2402E-20	7.2402E-20
H2	8.0000E-01	8.0000E-01	7.9997E-01

p1 = 1.00E+04 N/30-M. US1 = 7.00E+03 M/SEC

	MUJING SHUKA	STANDING SHOKK	REFLECTED SHUKA
P	5.9004E+01	1.3968E+02	2.0632E+02
T	7.9941E+00	1.0263E+01	1.2300E+01
KNU	5.2971E+00	1.3450E+01	2.0544E+01
M	8.0071E+00	1.2174E+01	1.8070E+01
A	2.0554E+00	3.0164E+00	3.5049E+00
S	1.1709E+00	1.1885E+00	1.2170E+00
Z	1.0000E+00	1.0120E+00	1.0300E+00
NAME	9.5224E-01	8.7609E-01	8.5400E-01
U	4.6005E+00	1.8369E+00	1.6270E+00
SPECIES			
MOLE FRACTIONS			
C-	5.0052E-17	2.0133E-12	2.5352E-10
HE	1.9999E-01	1.9763E-01	1.9429E-01
HE+	5.0110E-39	4.8422E-29	1.0979E-29
HE++	0.	0.	9.7300E-01
H	1.5225E-05	2.3653E-02	7.4039E-02
H+	3.0924E-17	2.0133E-12	2.5352E-10
H2	7.9999E-01	7.7870E-01	7.5602E-01

P1 = 1.00E+04 N/30-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2113E+01	2.1142E+02	3.6870E+02
T	9.0392E+00	1.2136E+01	1.3994E+01
RHO	5.7330E+00	1.6769E+01	2.4370E+01
M	1.0330E+01	1.6085E+01	2.0070E+01
A	2.8457E+00	3.2785E+00	3.5842E+00
S	1.2085E+00	1.2267E+00	1.2591E+00
Z	1.0050E+00	1.0389E+00	1.0060E+00
GAME	8.9134E-01	8.5254E-01	8.4459E-01
U	5.4273E+00	1.8545E+00	1.6701E+00

SPECIES	MULE FRACTIONS
E-	1.8821E-10
ME	1.9251E-01
HE+	4.5479E-24
ME+	1.5712E-01
M	7.4886E-02
M+	1.8821E-10
M2	7.3260E-01

P1 = 1.00E+04 N/30-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0911E+01	3.1007E+02	5.1279E+02
T	1.0430E+01	1.3814E+01	1.5645E+01
RHO	6.2897E+00	2.0771E+01	2.8856E+01
M	1.4849E+01	2.0647E+01	2.6226E+01
A	3.0227E+00	3.5577E+00	3.8406E+00
S	1.2604E+00	1.2663E+00	1.3028E+00
Z	1.0200E+00	1.0806E+00	1.1306E+00
GAME	8.5087E-01	8.4790E-01	8.5607E-01
U	6.2194E+00	1.8821E+00	1.7343E+00

SPECIES	MULE FRACTIONS
E-	3.5531E-09
ME	1.8501E-01
HE+	3.1898E-21
ME+	9.3067E-18
M	1.4426E-01
M+	3.5531E-09
M2	6.6567E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

P1 = 1.00E+04 N/30-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9811E+01	5.2089E+01	1.1588E+02
T	4.4065E+00	5.9047E+00	8.1170E+00
RHO	4.9937E+00	8.8198E+00	1.4280E+01
M	4.5641E+00	6.2438E+00	8.9214E+00
A	2.0723E+00	2.3774E+00	2.7410E+00
S	1.1079E+00	1.1128E+00	1.1307E+00
Z	1.0000E+00	1.0000E+00	1.0014E+00
GAME	9.7553E-01	9.5715E-01	9.2503E-01
U	3.1952E+00	1.6271E+00	1.4721E+00

SPECIES	MULE FRACTIONS
E-	3.2185E-23
ME	1.9999E-01
HE+	4.0695E-46
ME+	0.
M	5.0843E-07
M+	7.2402E-20
M2	7.9995E-01

P1 = 1.00E+04 N/30-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8753E+01	8.8530E+01	1.8114E+02
T	5.8455E+00	8.0994E+00	1.0408E+01
RHO	4.9187E+00	1.0916E+01	1.7190E+01
M	6.1764E+00	8.9085E+00	1.2353E+01
A	2.3600E+00	2.7365E+00	3.0400E+00
S	1.1430E+00	1.1511E+00	1.1773E+00
Z	1.0000E+00	1.0014E+00	1.0119E+00
GAME	9.5758E-01	9.2332E-01	8.7740E-01
U	3.9283E+00	1.7694E+00	1.5753E+00

SPECIES	MULE FRACTIONS
E-	5.9418E-10
ME	1.9972E-01
HE+	5.5599E-35
ME+	0.
M	2.7507E-03
M+	5.9425E-16
M2	7.9752E-01

PI = 1.00E+04 N/30-M. US1= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.000E+02	1.218E+03	1.000E+03
T	1.530E+01	2.210E+01	2.610E+01
RMU	1.177E+01	3.842E+01	4.632E+01
M	3.004E+01	5.205E+01	6.483E+01
A	3.902E+00	5.374E+00	6.244E+00
S	1.412E+00	1.484E+00	1.544E+00
Z	1.207E+00	1.430E+00	1.554E+00
NAME	8.400E-01	9.104E-01	9.580E-01
U	1.024E+01	2.440E+00	2.510E+00

SPECIES	MOLE FRACTIONS	
E-	5.130E-06	8.164E-06
HE	1.650E-01	1.398E-01
HE+	4.697E-49	1.583E-43
HE++	1.430E-69	8.486E-49
H	3.439E-01	6.019E-01
H+	5.130E-06	8.164E-06
H2	4.902E-01	2.582E-01

PI = 1.00E+04 N/30-M. US1= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.000E+02	1.460E+03	2.280E+03
T	1.620E+01	2.420E+01	2.980E+01
RMU	9.540E+00	3.970E+01	4.657E+01
M	3.437E+01	5.985E+01	7.532E+01
A	4.183E+00	5.869E+00	7.035E+00
S	1.454E+00	1.529E+00	1.592E+00
Z	1.202E+00	1.514E+00	1.648E+00
NAME	8.525E-01	9.360E-01	1.000E+00
U	1.103E+01	2.652E+00	2.842E+00

SPECIES	MOLE FRACTIONS	
E-	1.587E-07	2.478E-05
HE	1.000E-01	1.320E-01
HE+	4.555E-18	2.154E-12
HE++	2.168E-66	2.065E-44
H	1.154E-01	6.797E-01
H+	1.587E-07	2.478E-05
H2	4.201E-01	1.002E-01

PI = 1.00E+04 N/30-M. US1= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.025E+02	5.941E+02	9.310E+02
T	1.204E+01	1.699E+01	1.912E+01
RMU	7.546E+00	2.929E+01	3.402E+01
M	1.842E+01	3.158E+01	3.924E+01
A	3.375E+00	4.186E+00	4.639E+00
S	1.306E+00	1.350E+00	1.392E+00
Z	1.075E+00	1.197E+00	1.281E+00
NAME	8.542E-01	8.612E-01	8.785E-01
U	7.841E+00	2.019E+00	1.939E+00

SPECIES	MOLE FRACTIONS	
E-	9.233E-10	1.699E-07
HE	1.060E-01	1.699E-01
HE+	4.890E-23	1.983E-17
HE++	2.035E-64	1.620E-03
H	1.400E-01	3.303E-01
H+	9.233E-10	1.699E-07
H2	6.739E-01	5.026E-01

PI = 1.00E+04 N/30-M. US1= 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.232E+02	7.807E+02	1.200E+03
T	1.359E+01	1.860E+01	2.100E+01
RMU	8.139E+00	3.305E+01	4.183E+01
M	2.227E+01	3.787E+01	4.691E+01
A	3.562E+00	4.543E+00	5.086E+00
S	1.342E+00	1.374E+00	1.443E+00
Z	1.113E+00	1.269E+00	1.367E+00
NAME	8.302E-01	8.789E-01	8.970E-01
U	8.649E+00	2.009E+00	2.089E+00

SPECIES	MOLE FRACTIONS	
E-	4.728E-09	7.186E-07
HE	1.795E-01	1.575E-01
HE+	1.724E-21	5.579E-16
HE++	7.650E-78	7.135E-58
H	2.041E-01	4.245E-01
H+	4.728E-09	7.186E-07
H2	6.162E-01	4.178E-01

$$p_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/30-M. US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F	3.1520E+02	2.3778E+03	5.2114E+03
T	2.0300E+01	3.8774E+01	5.0216E+01
M	1.0000E+01	3.4859E+01	4.1102E+01
H	5.4628E+01	9.4911E+01	1.2814E+02
A	5.2605E+00	8.5631E+00	1.0124E+01
S	1.0131E+00	1.6902E+00	1.7579E+00
Z	1.5165E+00	1.7529E+00	1.8227E+00
U	8.9941E-01	1.0750E+00	1.0059E+00
U	1.4092E+01	4.1498E+00	4.6924E+00

P1 = 1.00E+04 N/30-M. US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F	3.1520E+02	2.3778E+03	5.2114E+03
T	2.0300E+01	3.8774E+01	5.0216E+01
M	1.0000E+01	3.4859E+01	4.1102E+01
H	5.4628E+01	9.4911E+01	1.2814E+02
A	5.2605E+00	8.5631E+00	1.0124E+01
S	1.0131E+00	1.6902E+00	1.7579E+00
Z	1.5165E+00	1.7529E+00	1.8227E+00
U	8.9941E-01	1.0750E+00	1.0059E+00
U	1.4092E+01	4.1498E+00	4.6924E+00

P1 = 1.00E+04 N/30-M. US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F	3.1520E+02	2.3778E+03	5.2114E+03
T	2.0300E+01	3.8774E+01	5.0216E+01
M	1.0000E+01	3.4859E+01	4.1102E+01
H	5.4628E+01	9.4911E+01	1.2814E+02
A	5.2605E+00	8.5631E+00	1.0124E+01
S	1.0131E+00	1.6902E+00	1.7579E+00
Z	1.5165E+00	1.7529E+00	1.8227E+00
U	8.9941E-01	1.0750E+00	1.0059E+00
U	1.4092E+01	4.1498E+00	4.6924E+00

P1 = 1.00E+04 N/30-M. US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F	3.1520E+02	2.3778E+03	5.2114E+03
T	2.0300E+01	3.8774E+01	5.0216E+01
M	1.0000E+01	3.4859E+01	4.1102E+01
H	5.4628E+01	9.4911E+01	1.2814E+02
A	5.2605E+00	8.5631E+00	1.0124E+01
S	1.0131E+00	1.6902E+00	1.7579E+00
Z	1.5165E+00	1.7529E+00	1.8227E+00
U	8.9941E-01	1.0750E+00	1.0059E+00
U	1.4092E+01	4.1498E+00	4.6924E+00

P1 = 1.00E+04 N/30-M. US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F	3.1520E+02	2.3778E+03	5.2114E+03
T	2.0300E+01	3.8774E+01	5.0216E+01
M	1.0000E+01	3.4859E+01	4.1102E+01
H	5.4628E+01	9.4911E+01	1.2814E+02
A	5.2605E+00	8.5631E+00	1.0124E+01
S	1.0131E+00	1.6902E+00	1.7579E+00
Z	1.5165E+00	1.7529E+00	1.8227E+00
U	8.9941E-01	1.0750E+00	1.0059E+00
U	1.4092E+01	4.1498E+00	4.6924E+00

P1 = 1.00E+04 N/30-M. US1 = 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F	3.1520E+02	2.3778E+03	5.2114E+03
T	2.0300E+01	3.8774E+01	5.0216E+01
M	1.0000E+01	3.4859E+01	4.1102E+01
H	5.4628E+01	9.4911E+01	1.2814E+02
A	5.2605E+00	8.5631E+00	1.0124E+01
S	1.0131E+00	1.6902E+00	1.7579E+00
Z	1.5165E+00	1.7529E+00	1.8227E+00
U	8.9941E-01	1.0750E+00	1.0059E+00
U	1.4092E+01	4.1498E+00	4.6924E+00

P1 = 1.00E+04 N/30-M. US1 = 1.00E+04 M/SEC			
	MOVING SHOCK		

P1 = 1.00E+04 N/30-M. US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5247E+02	1.9502E+03	3.2300E+03
T	1.0123E+01	2.9944E+01	4.2203E+01
THU	1.0007E+01	3.9038E+01	4.3401E+01
M	4.3916E+01	7.0737E+01	1.0046E+02
A	4.6724E+00	7.1187E+00	8.9403E+00
S	1.5331E+00	1.6147E+00	1.6840E+00
Z	1.3032E+00	1.6683E+00	1.7661E+00
NAME	4.7089E+01	1.0144E+00	1.0704E+00
U	1.2503E+01	3.2506E+00	3.0742E+00

SPECIES ----- MOLE FRACTIONS -----

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	9.2902E-07	2.3230E-04	3.6499E-03
HE	1.4459E-01	1.1988E-01	1.1325E-01
HE+	2.0224E-16	4.3626E-10	3.8030E-07
M	3.1172E-59	7.4351E-36	4.2235E-22
M+	5.5410E-01	8.0050E-01	8.5007E-01
M2	9.5902E-07	2.3230E-04	3.6499E-03
M2	3.0131E-01	7.9159E-02	2.2620E-02

P1 = 1.00E+04 N/30-M. US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8300E+02	2.1732E+03	3.7301E+03
T	1.9161E+01	3.3900E+01	4.9504E+01
THU	1.0219E+01	3.7102E+01	4.1919E+01
M	4.9127E+01	8.5676E+01	1.1424E+02
A	4.9500E+00	7.8704E+00	9.6117E+00
S	1.5737E+00	1.6545E+00	1.7230E+00
Z	1.4494E+00	1.7237E+00	1.7923E+00
NAME	8.8304E+01	1.0575E+00	1.0302E+00
U	1.3403E+01	3.6729E+00	4.2920E+00

SPECIES ----- MOLE FRACTIONS -----

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.4457E-06	7.4413E-04	1.0254E-02
HE	1.3799E-01	1.1603E-01	1.1140E-01
HE+	2.0224E-15	7.0494E-09	4.8242E-06
M	5.0011E-50	1.9203E-31	4.0045E-21
M+	8.0013E-01	8.3748E-01	8.3494E-01
M2	2.4457E-06	7.4413E-04	1.0254E-02
M2	2.0100E-01	4.5002E-02	1.2920E-02

P1 = 1.00E+04 N/30-M. US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5009E+02	2.5604E+03	4.6490E+03
T	4.1652E+01	4.3980E+01	6.2044E+01
THU	1.0208E+01	3.2659E+01	4.0437E+01
M	6.0415E+01	1.0446E+02	1.4210E+02
A	5.6232E+00	9.1157E+00	1.0632E+00
S	1.6535E+00	1.7239E+00	1.7897E+00
Z	1.5839E+00	1.7829E+00	1.8527E+00
NAME	9.2201E-01	1.0597E+00	9.8332E-01
U	1.9824E+01	4.6310E+00	5.0035E+00

SPECIES ----- MOLE FRACTIONS -----

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.2359E-05	5.5271E-03	3.4700E-02
HE	1.2227E-01	1.1218E-01	1.0700E-01
HE+	1.1205E-13	8.6045E-07	9.3223E-09
M	1.9016E-49	6.6888E-24	1.7020E-10
M+	7.5728E-01	8.6165E-01	8.1622E-01
M2	1.2359E-05	5.5271E-03	3.4700E-02
M2	1.3642E-01	1.5118E-02	6.3492E-03

P1 = 1.00E+04 N/30-M. US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8509E+02	2.7203E+03	5.0224E+03
T	4.3312E+01	4.9127E+01	6.7227E+01
THU	1.0020E+01	3.0712E+01	3.9619E+01
M	6.6400E+01	1.1430E+02	1.5630E+02
A	6.0530E+00	9.5534E+00	1.1002E+01
S	1.6927E+00	1.7551E+00	1.8203E+00
Z	1.6400E+00	1.8029E+00	1.8850E+00
NAME	9.5359E-01	1.0304E+00	9.6932E-01
U	1.5533E+01	5.0630E+00	5.2502E+00

SPECIES ----- MOLE FRACTIONS -----

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.1526E-05	1.1451E-02	5.0309E-02
HE	1.2132E-01	1.1093E-01	1.0504E-01
HE+	1.0446E-12	4.9119E-06	2.3153E-04
M	7.0011E-46	3.4373E-21	4.4422E-15
M+	7.4675E-01	8.5634E-01	7.8463E-01
M2	3.1526E-05	1.1444E-02	5.0077E-02
M2	9.1872E-02	9.8307E-03	4.9161E-03

Table II. - Continued

 $P_1 = 10 \text{ KN/m}^2$

P1 = 1.00E+06 N/30-M, US1= 2.20E+04 M/SEC			
AWING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	5.2100E+02	2.8536E+03	5.3047E+03
T	2.5402E+01	5.3917E+01	7.1790E+01
AMJ	9.0907E+00	2.9018E+01	3.8402E+01
M	7.2017E+01	1.2469E+02	1.7076E+02
A	6.5030E+00	9.9317E+00	1.1504E+01
S	1.7301E+00	1.7855E+00	1.8506E+00
Z	1.7000E+00	1.4239E+00	1.9208E+00
UAME	9.9833E-01	1.0031E+00	9.5474E-01
U	1.6214E+01	5.4159E+00	5.4643E+00

SPECIES		MOLE FRACTIONS	
C-	0.4204E-03	2.0007E-02	6.8842E-02
HC	1.11730E-01	1.0964E-01	1.0362E-01
HC+	1.2441E-11	1.8653E-05	4.6097E-04
H	0.3925E-02	4.0476E-14	5.5290E-14
M	0.2670E-01	8.6343E-01	7.5870E-01
M+	0.9204E-03	1.9988E-02	6.6300E-02
M2	0.0022E-02	6.9152E-03	3.9152E-03

SPECIES		MOLE FRACTIONS	
P	5.3217E+02	3.0914E+03	5.7114E-02
T	3.0100E+01	6.5834E+01	1.0488E-01
AMJ	8.0227E+00	2.4679E+01	2.3142E-04
M	9.3349E+01	1.5766E+02	3.1311E-15
A	4.3524E+00	1.0945E+01	7.774E-01
S	1.8272E+00	1.8733E+00	5.6882E-02
Z	1.7895E+00	1.9027E+00	3.1490E-03
UAME	1.0700E+00	9.5242E-01	
U	1.8042E+01	6.0078E+00	

SPECIES		MOLE FRACTIONS	
E-	2.6453E-03	5.7114E-02	1.1779E-01
HE	1.1176E-01	1.0488E-01	9.6300E-02
HE+	6.9474E-08	2.3142E-04	1.8917E-03
HE+	7.7233E-29	3.1311E-15	8.1255E-12
H	8.7444E-01	7.774E-01	6.0549E-01
M+	2.6452E-03	5.6882E-02	1.1590E-01
M2	0.5077E-03	3.1490E-03	2.1240E-03

PI = 1.00E+04 N/SEC US1 = 2.60E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.719E+02	3.2015E+03	5.7622E+03
T	4.0323E+01	6.937E+01	8.5997E+01
RMJ	7.6727E+00	2.3852E+01	3.2264E+01
M	1.0075E+02	1.6960E+02	2.2797E+02
A	6.718E+00	1.1286E+01	1.2907E+01
S	1.8541E+00	1.9009E+00	1.9486E+00
Z	1.8017E+00	1.9346E+00	2.0786E+00
NAME	1.0462E+00	9.4895E-01	9.4149E-01
U	1.6651E+01	6.1539E+00	6.0107E+00

SPECIES	MOLE FRACTIONS
E-	6.1530E-03
HE	7.2163E-02
HE+	1.0290E-01
ME+	4.1392E-04
ME++	2.4990E-14
H	1.2012E-25
H+	6.7149E-01
H2	7.5014E-01
	7.1749E-02
	2.5662E-03
	1.7770E-03

PI = 1.00E+04 N/SEC US1 = 2.70E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1911E+02	3.3590E+03	5.9894E+03
T	4.4246E+01	7.2841E+01	8.9393E+01
RMJ	7.6407E+00	2.3428E+01	3.1403E+01
M	1.0040E+02	1.8228E+02	2.4370E+02
A	9.0124E+00	1.1639E+01	1.3343E+01
S	1.8791E+00	1.9270E+00	1.9950E+00
Z	1.8150E+00	1.9689E+00	2.1200E+00
NAME	1.0115E+00	9.4389E-01	9.3944E-01
U	1.4286E+01	6.2932E+00	6.1540E+00

SPECIES	MOLE FRACTIONS
E-	1.1797E-02
HE	8.7907E-02
HE+	1.0089E-01
ME+	6.8713E-04
ME++	1.5497E-13
H	7.2119E-01
H+	6.8291E-01
H2	9.7219E-02
	1.1795E-02
	2.1433E-03

PI = 1.00E+04 N/SEC US1 = 2.30E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5734E+02	2.9490E+03	5.4603E+03
T	4.0330E+01	5.8266E+01	7.5791E+01
RMJ	7.2907E+00	2.7396E+01	3.6854E+01
M	7.9407E+01	1.3534E+02	1.8494E+02
A	7.2194E+00	1.0282E+01	1.1892E+01
S	1.7656E+00	1.8154E+00	1.8807E+00
Z	1.7470E+00	1.8475E+00	1.9576E+00
NAME	1.0510E+00	9.8209E-01	9.5304E-01
U	1.6653E+01	5.6733E+00	5.6340E+00

SPECIES	MOLE FRACTIONS
E-	2.8399E-04
HE	3.0820E-02
HE+	1.0820E-01
ME+	5.2368E-05
ME++	1.5955E-17
H	4.0372E-13
H+	7.2801E-01
H2	8.2502E-01
	3.0767E-02
	5.1312E-03
	3.1606E-03

PI = 1.00E+04 N/SEC US1 = 2.40E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9420E+02	3.0157E+03	5.5604E+03
T	3.2034E+01	6.2206E+01	7.9343E+01
RMJ	8.6474E+00	2.5871E+01	3.5040E+01
M	8.6246E+01	1.4428E+02	1.9864E+02
A	7.8524E+00	1.0617E+01	1.2238E+01
S	1.7470E+00	1.8450E+00	1.9107E+00
Z	1.7408E+00	1.8739E+00	1.9594E+00
NAME	1.0550E+00	9.697E-01	9.4804E-01
U	1.7450E+01	5.8661E+00	5.7639E+00

SPECIES	MOLE FRACTIONS
E-	9.4512E-04
HE	4.3377E-02
HE+	1.0661E-01
ME+	1.1888E-04
ME++	2.9122E-16
H	8.0208E-01
H+	6.9700E-01
H2	9.9491E-02
	4.3298E-02
	3.9518E-03

$P_1 = 10 \text{ kN/m}^2$

P1 = 1.00E+04 N/50-M, US1 = 3.20E+04 P/SEC

P1 = 1.0E+04 N/CM² US1 = 2.0E+04 N/SEC

	MOVING SHULK	STANDING SHOCK	REFLECTED SHULK
P	4.5936E+02	4.6979E+03	8.1221E+03
T	5.9907E+01	8.9873E+01	1.0729E+02
Y	7.4025E+00	2.4101E+01	3.1994E+01
M	1.5183E+02	2.5602E+02	3.3747E+02
A	1.0390E+01	1.3477E+01	1.5410E+01
S	1.9902E+00	2.0679E+00	2.1233E+00
Z	1.9206E+00	2.1689E+00	2.3508E+00
GAME	4.20E+01	9.349E+01	9.3094E+01
U	7.0671E+00	7.0671E+00	6.9514E+00

	MOVING SMOCA	STANDING SMOCA	REFLECTED SMOCA
P	0.560E+02	3.5613E+03	6.2971E+01
T	4.7959E+01	7.6278E+01	2.2401E+01
R	7.5106E+01	3.3242E+01	3.1314E+01
M	1.1658E+02	1.9568E+02	2.4069E+02
A	9.4841E+00	1.1999E+01	1.3733E+01
S	1.4027E+00	1.9522E+00	2.0224E+00
Z	1.8039E+00	2.0094E+00	2.1651E+00
W	9.3260E-01	9.4066E-01	9.3787E-01
U	1.9946E-01	6.4305E-01	6.2942E+00

SPECIES	MOLE FRACTIONS	
Σ	6.3805E-02	1.7111E-01
ME	1.0901E-01	4.7850E-02
ME+	1.3268E-04	1.3641E-03
ME++	1.4670E-10	1.4602E-10
M	7.6708E-01	5.6889E-01
M+	6.3729E-02	1.6675E-01
M2	1.1703E-03	1.0780E-03
		2.3700E-02
		1.2674E-02
		1.3102E-02
		4.5145E-01
		2.25710E-01
		7.3081E-04

SPECIES	MOLE FRACTIONS	
C	1.9075E-02	1.042E-01
ME	1.0923E-01	9.8654E-02
ME ⁺	6.5071E-06	1.0792E-03
ME ⁺	3.3762E-21	7.9894E-13
M	8.4924E-01	6.9108E-01
M ⁺	1.9469E-02	1.0314E-01
M2	2.6106E-03	1.8202E-03
		1.6943E-01
		8.7407E-02
		4.9661E-10
		2.8949E-10
		5.7444E-01
		1.6990E-01
		1.2990E-03

PI = 1.00E+04 N/50-M. US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.057E+02	5.413E+03	9.240E+03
T	5.117E+01	9.647E+01	1.153E+02
MMU	7.0543E+00	2.482E+01	3.275E+01
M	1.248E+02	2.897E+02	3.800E+02
A	9.545E+00	1.713E+01	1.633E+01
S	1.925E+00	1.427E+01	2.117E+00
Z	1.849E+00	2.094E+00	2.462E+00
NAME	9.8267E-01	9.3362E-01	9.393E-01
U	2.003E+01	7.408E+00	7.310E+00

SPECIES	MOLE FRACTIONS
E-	2.0355E-01
HE	8.129E-02
HE+	7.288E-03
M	1.0897E-09
M+	5.1079E-01
M2	1.9627E-01
	8.0433E-04

PI = 1.00E+04 N/50-M. US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0921E+03	6.2002E+03	1.059E+04
T	6.9237E+01	1.0331E+02	1.234E+02
MMU	7.699E+00	2.5543E+01	3.341E+01
M	1.409E+02	3.2591E+02	4.273E+02
A	1.1917E+01	1.5056E+01	1.734E+01
S	2.073E+00	2.100E+00	2.263E+00
Z	4.0391E+00	2.3495E+00	2.560E+00
NAME	9.189E-01	9.3387E-01	9.463E-01
U	2.5741E+01	7.7547E+00	7.703E+00

SPECIES	MOLE FRACTIONS
E-	2.3450E-01
HE	7.405E-02
HE+	1.106E-02
M	6.098E-09
M+	4.530E-01
M2	2.234E-01
	6.130E-04

PI = 1.00E+04 N/50-M. US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.057E+02	3.822E+03	6.675E+03
T	5.117E+01	7.970E+01	9.444E+01
MMU	7.0543E+00	2.3340E+01	3.128E+01
M	1.248E+02	2.898E+02	2.785E+02
A	9.545E+00	1.236E+01	1.413E+01
S	1.925E+00	1.9767E+00	2.046E+00
Z	1.849E+00	2.043E+00	2.214E+00
NAME	9.8267E-01	9.3013E-01	9.3677E-01
U	2.003E+01	6.5030E+00	6.450E+00

SPECIES	MOLE FRACTIONS
E-	1.2090E-01
HE	9.623E-02
HE+	1.6190E-03
M	3.535E-12
M+	6.6040E-01
M2	1.1920E-01
	1.5649E-03

PI = 1.00E+04 N/50-M. US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5473E+02	4.0730E+03	7.110E+03
T	5.424E+01	8.3107E+01	1.000E+02
MMU	7.437E+00	2.3520E+01	3.143E+01
M	1.335E+02	2.2450E+02	2.973E+02
A	9.8091E+00	1.2730E+01	1.455E+01
S	1.947E+00	2.0007E+00	2.1791E+00
Z	1.8710E+00	2.0842E+00	2.254E+00
NAME	9.461E-01	9.3652E-01	9.361E-01
U	2.130E+01	6.741E+00	6.611E+00

SPECIES	MOLE FRACTIONS
E-	1.3770E-01
HE	9.3630E-02
HE+	2.331E-03
M	1.3657E-11
M+	6.2961E-01
M2	1.3537E-01
	1.3571E-03

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$$P_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/50-M, US1 = 3.80E+04 M/SEC				P1 = 1.00E+04 N/50-M, US1 = 4.40E+04 M/SEC			

P1 = 1.00E+04 N/SU-M, US1 = 4.00E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3541E+03	7.9622E+03	1.3541E+04
T	7.8301E+01	1.1696E+02	1.4143E+02
MND	7.9377E+00	2.6833E+01	3.4404E+01
M	4.3715E+02	4.0445E+02	5.3031E+02
A	1.2511E+01	1.6710E+01	1.9581E+01
S	2.1533E+00	2.2322E+00	2.3269E+00
Z	2.1764E+00	2.5383E+00	2.7801E+00
GAME	9.1700E-01	9.4047E-01	9.7307E-01
U	2.8729E+01	8.4936E+00	8.6074E+00

SPECIES	MOLE FRACTIONS
E-	1.7336E-01
HE	8.9501E-02
ME+	2.3154E-03
HE+	6.0020E-12
M	5.6324E-01
M+	1.7104E-01
M2	4.2212E-04

P1 = 1.00E+04 N/SU-M, US1 = 4.20E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4950E+03	8.9232E+03	1.5217E+04
T	8.2649E+01	1.2408E+02	1.5100E+02
MND	8.0451E+00	2.7291E+01	3.4500E+01
M	2.6147E+02	4.4675E+02	5.8735E+02
A	1.3065E+01	1.7605E+01	2.0894E+01
S	2.1962E+00	2.2779E+00	2.3771E+00
Z	2.4498E+00	2.6349E+00	2.8972E+00
GAME	9.1816E-01	9.4801E-01	9.9209E-01
U	3.0223E+01	8.9047E+00	9.1507E+00

SPECIES	MOLE FRACTIONS
E-	4.0029E-01
HE	8.5227E-02
ME+	3.6072E-03
HE+	3.4244E-11
M	5.1305E-01
M+	1.9603E-01
M2	3.3715E-04

P1 = 1.00E+04 N/SU-M, US1 = 4.50E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7995E+03	1.0946E+04	1.8896E+04
T	9.1001E+01	1.3941E+02	1.7704E+02
MND	8.2206E+00	2.7757E+01	3.4302E+01
M	3.1306E+02	5.3706E+02	7.1316E+02
A	1.4186E+01	1.9582E+01	2.3894E+01
S	2.2701E+00	2.3678E+00	2.4754E+00
Z	2.4037E+00	2.8287E+00	3.1119E+00
GAME	9.2006E-01	9.7234E-01	1.0361E+00
U	3.3205E+01	9.4369E+00	1.0401E+01

SPECIES	MOLE FRACTIONS
E-	4.5138E-01
HE	7.5388E-02
ME+	7.8104E-03
HE+	6.4399E-10
M	4.2165E-01
M+	2.4356E-01
M2	2.1152E-04

P1 = 1.00E+04 N/SU-M, US1 = 4.80E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9610E+03	1.1991E+04	2.0922E+04
T	9.5189E+01	1.4789E+02	1.9208E+02
MND	8.2491E+00	2.7728E+01	3.3400E+01
M	3.4151E+02	5.8491E+02	7.8234E+02
A	1.4761E+01	2.0676E+01	2.5572E+01
S	2.3191E+00	2.4119E+00	2.5246E+00
Z	2.4631E+00	2.9242E+00	3.2106E+00
GAME	9.2217E-01	9.8849E-01	1.0574E+00
U	3.4694E+01	1.0378E+01	1.1272E+01

SPECIES	MOLE FRACTIONS
E-	4.7227E-01
HE	6.9669E-02
ME+	1.0675E-02
HE+	2.2701E-09
M	3.7943E-01
M+	2.0459E-01
M2	1.0073E-04

$$p_1 = 10 \text{ kN/m}^2$$

US1 = 5.60E+04 N/SEC

UPL = 1.00E+04 N/50-M, USL = 5.00E+04 N/SEC

[illegible]

P1 = 1.00E+04 N/50-M, US1 = 5.80E+04 M/5

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8705E+03	1.7103E+04	3.2103E+04
T	1.1757E+02	2.0341E+02	2.9252E+02
RMD	8.4472E+00	2.5278E+01	3.1194E+01
M	4.9845E+02	5.4685E+02	1.1821E+03
A	1.7924E+01	2.6942E+01	3.2822E+01
S	2.5229E+00	2.6172E+00	2.7376E+00
Z	2.8902E+00	3.3263E+00	3.5271E+00
GAME	9.4543E-01	1.0724E+03	1.0442E+00
U	4.2018E+01	1.4034E+01	1.5617E+01

SPECIES	MOLE FRACTIONS
E-	3.7726E-01
ME	3.9922E-02
ME+	3.0376E-02
ME++	3.6759E-07
M	2.0461E-01
M+	3.4488E-01
M2	4.4482E-05
	4.8966E-01
	6.5708E-03
	3.7753E-02
	1.2381E-02
	2.6486E-02
	4.2715E-01
	1.8559E-06

P1 = 1.00E+04 N/50-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0705E+03	1.8020E+04	3.4435E+04
T	1.2272E+02	2.1763E+02	3.1362E+02
RMC	8.4211E+00	2.4480E+01	3.0770E+01
M	5.3330E+02	9.0307E+02	1.2699E+03
A	1.8668E+01	2.8162E+01	3.4200E+01
S	2.5629E+00	2.6595E+00	2.7749E+00
Z	2.9713E+00	3.3824E+00	3.5711E+00
GAME	9.5571E-01	1.0774E+00	1.0450E+00
U	4.3444E+01	1.4934E+01	1.6382E+01

SPECIES	MOLE FRACTIONS
E-	3.9423E-01
ME	3.2874E-02
ME+	3.4434E-02
ME++	8.7840E-07
M	1.7562E-01
M+	3.5980E-01
M2	3.2493E-05
	4.6785E-01
	1.1654E-02
	4.6772E-02
	1.8135E-02
	2.1419E-02
	4.2662E-01
	1.1940E-06

P1 = 1.00E+04 N/50-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3044E+03	1.4093E+04	2.5207E+04
T	1.0374E+02	1.6713E+02	2.3007E+02
RMD	6.4034E+00	2.7152E+01	3.2647E+01
M	4.0080E+02	6.8547E+02	9.3341E+02
A	1.5949E+01	2.3069E+01	2.8870E+01
S	2.4012E+00	2.4975E+00	2.8163E+00
Z	2.6452E+00	3.1055E+00	3.3686E+00
GAME	9.2701E-01	1.0754E+00	1.0754E+00
U	3.7644E+01	1.1644E+01	1.3049E+01

SPECIES	MOLE FRACTIONS
E-	3.1962E-01
ME	5.7740E-02
ME+	1.7829E-02
ME++	2.1294E-08
M	3.0288E-01
M+	3.0179E-01
M2	1.0157E-04
	4.2043E-01
	1.2946E-02
	4.4718E-02
	4.1992E-02
	4.5142E-05
	1.6274E-03
	5.7142E-02
	4.1764E-01
	9.3752E-06

P1 = 1.00E+04 N/50-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4680E+03	1.5130E+04	2.7591E+04
T	1.0013E+02	1.7816E+02	2.5110E+02
RMD	6.372E+00	2.6642E+01	3.2041E+01
M	4.3219E+02	7.3797E+02	1.0144E+03
A	1.6572E+01	2.4350E+01	3.0297E+01
S	2.4418E+00	2.9387E+00	2.6595E+00
Z	2.7206E+00	3.1875E+00	3.4244E+00
GAME	9.5137E-01	1.0440E+00	1.0659E+00
U	3.9114E+01	1.2380E+01	1.3974E+01

SPECIES	MOLE FRACTIONS
E-	3.3991E-01
ME	5.1451E-02
ME+	4.1901E-02
ME++	5.7679E-08
M	2.8804E-01
M+	3.0145E-01
M2	7.8355E-05
	4.3533E-01
	1.8975E-02
	4.3662E-02
	1.0795E-04
	1.1049E-01
	4.2942E-02
	4.2326E-01
	5.1407E-06

$$p_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/SQ-M, US1 = 6.2DE+04 M/SEC				P1 = 1.00E+04 N/SQ-M, US1 = 6.8DE+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	3.2759E+03	1.8936E+04	3.6648E+04	P	3.9203E+03	2.1325E+04	4.2902E+04
T	1.2927E+02	2.3223E+02	3.3499E+02	T	1.4859E+02	2.7744E+02	4.1150E+02
RHL	8.3712E+00	2.3735E+01	3.0289E+01	RHL	8.0659E+00	2.1692E+01	2.8052E+01
M	5.6928E+02	9.6076E+02	1.3582E+03	M	6.8383E+02	1.1426E+03	1.6461E+03
A	1.5468E+01	2.9234E+01	3.5723E+01	A	2.2281E+01	3.1980E+01	4.1196E+01
S	2.6026E+00	2.6935E+00	2.8110E+00	S	2.7173E+00	2.7929E+00	2.9165E+00
Z	3.0510E+00	3.4292E+00	3.6119E+00	Z	3.2741E+00	3.5434E+00	3.7079E+00
GAMF	9.2847E-01	1.0729E+00	1.0547E+00	GAMF	1.0215E+00	1.0403E+00	1.1123E+00
U	4.4961E+01	1.5910E+01	1.7154E+01	U	4.8950E+01	1.8185E+01	1.9776E+01
SPECIES				SPECIES			
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
E-	4.1004E-01	4.7510E-01	5.0165E-01	E-	4.4972E-01	4.9202E-01	5.1454E-01
HE	2.7375E-02	5.8657E-01	3.4330E-03	HE	1.4564E-02	5.4438E-03	9.5467E-04
HE+	3.8176E-02	4.5965E-02	2.7719E-02	HE+	4.6553E-02	3.9218E-02	1.3823E-02
ME+	2.0587E-06	2.4919E-03	2.4223E-02	ME+	2.6043E-05	1.1781E-02	3.9260E-02
M	1.5252E-01	4.2424E-02	1.7480E-02	M	8.6007E-02	2.2294E-02	9.2938E-03
M+	3.7146E-01	4.2415E-01	4.2549E-01	M+	4.0312E-01	4.2924E-01	4.2221E-01
M2	2.3082E-05	3.7894E-06	4.2503E-07	M2	6.6175E-06	9.3101E-07	2.7630E-07

P1 = 1.00E+04 N/SQ-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4863E+03	1.9746E+04	3.8784E+04
T	1.3435E+02	2.4736E+02	3.5826E+02
RMC	9.2944E+03	2.3002E+01	2.9665E+01
M	6.0639E+02	1.0198E+03	1.4505E+03
A	2.3335E+01	3.0199E+01	3.7427E+01
S	2.6617E+03	2.7255E+02	2.8468E+00
Z	3.1285E+00	3.4704E+03	3.6493E+00
GAME	9.8394E-01	1.0617E+00	1.0714E+03
U	4.6251E+01	1.6673E+01	1.7960E+01

SPECIES	MOLE FRACTIONS
E-	4.2466E-01
HE	2.2433E-02
HE+	4.1491E-02
HE++	4.7929E-06
H	1.2823E-01
M+	3.9316E-01
M2	1.5834E-05
	4.9134E-01
	5.2432E-03
	4.4779E-02
	4.6396E-03
	3.3689E-02
	4.2734E-01
	2.2285E-06
	5.0907E-01

P1 = 1.00E+04 N/SQ-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7012E+03	2.0538E+04	4.0821E+04
T	1.4110E+02	2.6263E+02	3.8307E+02
RMC	6.1966E+03	2.2299E+01	2.9950E+01
M	6.4456E+02	1.0602E+03	1.5460E+03
A	2.1276E+01	3.1093E+01	3.9230E+01
S	2.6802E+00	2.7603E+00	2.8811E+00
Z	3.2026E+00	3.5086E+00	3.6809E+00
GAME	1.6017E+00	1.0490E+00	1.0914E+00
U	4.7614E+01	1.7485E+01	1.9811E+01

SPECIES	MOLE FRACTIONS
E-	4.3797E-01
HE	1.8141E-02
HE+	4.4298E-02
HE++	1.1176E-05
H	1.0593E-01
M+	3.9365E-01
M2	1.0438E-05
	4.8697E-01
	6.7487E-03
	4.2475E-02
	7.7797E-03
	2.7088E-02
	4.2394E-01
	1.4209E-06
	5.1099E-01
	1.4457E-03
	1.7877E-02
	3.5012E-02
	1.1593E-02
	4.2309E-01
	3.3036E-07

P1 = 1.00E+04 N/SQ-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1423E+03	2.1997E+04	4.4540E+04
T	1.5718E+02	2.9211E+02	4.4164E+02
RMC	7.9029E+00	2.1051E+01	2.7049E+01
M	7.2413E+02	1.2058E+03	1.7481E+03
A	2.3377E+01	3.2927E+01	4.3121E+01
S	2.7544E+00	2.9255E+00	2.9504E+00
Z	3.3346E+00	3.5772E+00	3.7285E+00
GAME	1.0427E+00	1.0376E+00	1.1292E+00
U	5.6245E+01	1.8865E+01	2.0755E+01

SPECIES	MOLE FRACTIONS
E-	4.6021E-01
HE	1.1578E-02
HE+	4.8337E-02
HE++	6.2452E-05
H	6.8066E-02
M+	4.1175E-01
M2	3.9569E-06
	4.9681E-01
	4.2693E-03
	3.3202E-02
	1.6438E-02
	1.8546E-02
	4.2873E-01
	6.2302E-07
	5.1724E-01
	4.9565E-04
	1.0718E-02
	4.2427E-02
	7.4595E-03
	4.2166E-01
	1.2969E-07

$p_1 = 20 \text{ kN/m}^2$

P1 = 2.00E+04 N/ISO-H, US1= 4.00E+03 M/SEC				P1 = 2.00E+04 N/ISO-K, US1= 7.00E+03 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.2572E+01	2.6293E+01	7.5072E+01	P	3.9445E+01	1.3855E+02	2.6303E+02
T	3.1733E+00	3.9838E+00	5.7061E+00	T	7.4537E+00	1.0366E+01	1.2615E+01
RHO	3.9601E+00	6.6039E+00	1.1403E+01	RHO	5.2897E+00	1.3243E+01	2.018E+01
M	3.2467E+00	4.1057E+00	6.0157E+00	M	8.0863E+00	1.2150E+01	1.6356E+01
A	1.7739E+00	1.9770E+00	2.3402E+00	A	2.6418E+00	3.6437E+00	3.3521E+00
S	1.0745E+00	1.0762E+00	1.0975E+00	S	1.1933E+00	1.1955E+00	1.2254E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0053E+00	1.0053E+00	1.0330E+00
GAME	9.9106E-01	9.9109E-01	9.9375E-01	GAME	9.9549E-01	9.9549E-01	8.6232E-01
U	2.6570E+00	1.6729E+00	1.3086E+00	U	4.8645E+00	1.8623E+00	1.6587E+00
SPECIES				SPECIES			
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
E-	4.4172E-54	2.4794E-41	1.5328E-25	E-	2.4957E-17	1.5812E-12	2.6080E-10
HE	2.0000E-01	2.0000E-01	2.0000E-01	HE	1.9999E-01	1.9818E-01	1.9361E-01
HE+	1.5934E-63	3.2031E-56	6.4949E-47	HE+	7.7025E-41	2.0027E-24	2.4997E-23
HE++	0.	0.	0.	HE++	0.	0.	1.3215E-82
H	8.7152E-11	2.9032E-09	2.0659E-05	H	1.0971E-03	1.9424E-02	6.3879E-02
M+	7.2402E-20	7.2402E-20	7.2401E-20	M+	2.5029E-17	1.5912E-12	7.6080E-10
M2	8.0030E-01	8.0030E-01	7.9999E-01	M2	7.9931E-01	7.9345E-01	7.4251E-01

P1 = 2.00E+04 N/SQ-M, US1= 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.981E+01	5.208E+01	1.159E+02
T	4.405E+00	5.905E+00	8.136E+01
RHO	4.497E+00	8.188E+00	1.423E+01
M	4.541E+00	6.243E+00	8.925E+00
A	2.073E+00	2.378E+00	2.750E+00
S	1.112E+00	1.117E+00	1.142E+00
Z	1.000E+00	1.000E+00	1.000E+00
GAME	9.753E-01	9.574E-01	9.291E-01
U	3.192E+00	1.627E+00	1.473E+00

SPECIES	MOLE FRACTIONS
E-	1.0230E-37
HE	2.0000E-01
HE+	2.0964E-54
HE++	0.
H	3.5877E-07
H+	7.2402E-20
H2	8.0000E-01

P1 = 2.00E+04 N/SQ-M, US1= 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8732E+01	9.9369E+01	1.9160E+02
T	5.8459E+00	8.1137E+00	1.0545E+01
RHO	4.5183E+00	1.0891E+01	1.7040E+01
M	6.1761E+00	8.9040E+00	1.2383E+01
A	2.3664E+00	2.7453E+00	3.0715E+00
S	1.1486E+00	1.1569E+00	1.1842E+00
Z	1.0000E+00	1.0010E+00	1.0094E+00
GAME	9.5791E-01	9.2798E-01	8.8625E-01
U	3.9283E+00	1.7748E+00	1.5927E+00

SPECIES	MOLE FRACTIONS
E-	4.4763E-23
HE	2.0000E-01
HE+	6.4818E-47
HE++	0.
H	4.4465E-05
H+	7.2354E-20
H2	7.9990E-01

P1 = 2.00E+04 N/SQ-M, US1= 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2045E+01	2.0777E+02	3.6746E+02
T	9.1011E+00	1.2344E+01	1.4471E+01
RHO	5.6937E+00	1.6251E+01	2.3704E+01
M	1.0303E+01	1.6026E+01	2.0933E+01
A	2.0687E+00	3.3175E+00	3.6449E+00
S	1.2165E+00	1.2343E+00	1.2675E+00
Z	1.0044E+00	1.0324E+00	1.0713E+00
GAME	9.3022E-01	8.6342E-01	8.5705E-01
U	5.4194E+00	1.8976E+00	1.7142E+00

SPECIES	MOLE FRACTIONS
E-	4.9712E-14
HE	1.9373E-01
HE+	1.2395E-23
HE++	0.
H	8.7977E-03
H+	4.9712E-14
H2	7.9248E-01

P1 = 2.00E+04 N/SQ-M, US1= 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.6727E+01	3.0177E+02	5.0684E+02
T	1.0554E+01	1.4212E+01	1.6288E+01
RHO	6.1979E+00	1.9844E+01	2.7712E+01
M	1.2832E+01	2.0545E+01	2.6301E+01
A	3.0372E+00	3.6061E+00	3.9695E+00
S	1.2491E+00	1.2742E+00	1.3113E+00
Z	1.0162E+00	1.0700E+00	1.1229E+00
GAME	8.6815E-01	8.5511E-01	8.6155E-01
U	6.2324E+00	1.9354E+00	1.7874E+00

SPECIES	MOLE FRACTIONS
E-	5.6773E-12
HE	1.9681E-01
HE+	2.0390E-27
HE++	0.
H	3.1538E-02
H+	5.6773E-12
H2	7.7129E-01

P1 = 2.00E+04 N/50-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6918E+02	1.1586E+03	1.8261E+03
T	1.6265E+01	2.3344E+01	2.7757E+01
RHC	8.8357E+00	3.5487E+01	4.3158E+01
M	3.0019E+00	5.1732E+01	6.5035E+01
A	4.0417E+00	5.4771E+00	6.3950E+00
S	1.4243E+03	1.4957E+00	1.5471E+00
Z	1.1918E+00	1.3986E+00	1.5243E+01
GAME	8.5314E-01	9.1853E-01	9.6454E-01
U	1.0262E+01	2.5420E+00	2.6252E+00

P1 = 2.00E+04 N/50-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0216E+02	5.7299E+02	9.1047E+02
T	1.3027E+01	1.7692E+01	2.0136E+01
RHC	7.3535E+00	2.7471E+01	3.5878E+01
M	1.8812E+01	3.1391E+01	3.9341E+01
A	3.4270E+00	4.2562E+00	4.7456E+00
S	1.3161E+00	1.3577E+00	1.4028E+00
Z	1.0644E+00	1.1789E+00	1.2603E+00
GAME	8.4536E-01	8.681E-01	8.8743E-01
U	7.8102E+00	2.0892E+00	2.0117E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.1786E-09	2.2400E-07	1.4921E-06
ME	1.8755E-01	1.6965E-01	1.5970E-01
ME+	1.8324E-22	8.1474E-17	6.8693E-15
ME++	6.4690E-81	6.7075E-61	1.1676E-53
M	1.2455E-01	3.0353E-01	4.1303E-01
M+	1.1766E-09	2.2802E-07	1.4921E-06
M2	6.8791E-01	5.2685E-01	4.2827E-01

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.1786E-09	2.2400E-07	1.4921E-06
ME	1.8755E-01	1.6965E-01	1.5970E-01
ME+	1.8324E-22	8.1474E-17	6.8693E-15
ME++	6.4690E-81	6.7075E-61	1.1676E-53
M	1.2455E-01	3.0353E-01	4.1303E-01
M+	1.1766E-09	2.2802E-07	1.4921E-06
M2	6.8791E-01	5.2685E-01	4.2827E-01

P1 = 2.00E+04 N/50-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9504E+02	1.3844E+03	2.2128E+03
T	1.7048E+01	2.5630E+01	3.1581E+01
RHC	9.1943E+00	3.6614E+01	4.3431E+01
M	3.4346E+01	5.9467E+01	7.5557E+01
A	4.2711E+00	5.5788E+00	7.1706E+00
S	1.4622E+03	1.5322E+00	1.5951E+00
Z	1.2440E+00	1.4791E+00	1.6133E+00
GAME	9.6014E-01	9.4431E-01	1.0090E+00
U	1.0984E+01	2.7572E+00	2.9508E+00

P1 = 2.00E+04 N/50-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2273E+02	7.4756E+02	1.1751E+03
T	1.4031E+01	1.9465E+01	2.2307E+01
RHC	7.9048E+00	3.0815E+01	3.9227E+01
M	2.2251E+01	3.7647E+01	4.7047E+01
A	3.6217E+00	4.6249E+00	5.2139E+00
S	1.3512E+00	1.4010E+00	1.4504E+00
Z	1.1024E+00	1.2463E+00	1.3430E+00
GAME	8.4499E-01	9.9171E-01	9.0745E-01
U	8.6135E+00	2.2090E+00	2.1734E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.1786E-09	2.2400E-07	1.4921E-06
ME	1.8755E-01	1.6965E-01	1.5970E-01
ME+	1.8324E-22	8.1474E-17	6.8693E-15
ME++	6.4690E-81	6.7075E-61	1.1676E-53
M	1.2455E-01	3.0353E-01	4.1303E-01
M+	1.1766E-09	2.2802E-07	1.4921E-06
M2	6.8791E-01	5.2685E-01	4.2827E-01

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.1786E-09	2.2400E-07	1.4921E-06
ME	1.8755E-01	1.6965E-01	1.5970E-01
ME+	1.8324E-22	8.1474E-17	6.8693E-15
ME++	6.4690E-81	6.7075E-61	1.1676E-53
M	1.2455E-01	3.0353E-01	4.1303E-01
M+	1.1766E-09	2.2802E-07	1.4921E-06
M2	6.8791E-01	5.2685E-01	4.2827E-01

Table II. - Continued

 $P_1 = 20 \text{ kN/m}^2$

$P_1 = 2.00E+04 \text{ N/SQ-M}, \quad US1 = 1.60E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2257E+02	1.6179E+03	2.6395E+03
T	1.8253E+01	2.8208E+01	3.6732E+01
RHO	9.8779E+00	3.6819E+01	4.2563E+01
M	3.8967E+01	6.7656E+01	9.7288E+01
A	4.5166E+00	6.5453E+00	8.0799E+00
S	1.5007E+00	1.5747E+00	1.6417E+00
Z	1.3305E+00	1.5378E+00	1.6883E+00
GAME	8.6886E-01	9.7492E-01	1.0527E+00
U	1.1761E+01	3.0266E+00	3.7681E+00
SPECIES			
----- MOLE FRACTIONS -----			
E-	6.2214E-07	9.2443E-05	9.2274E-04
HE	1.5375E-01	1.2839E-01	1.1946E-01
HE+	2.1411E-14	8.6299E-11	2.3611E-08
HE++	1.5376E-59	2.5107E-39	2.6915E-29
H	4.6217E-01	7.1585E-01	8.1261E-01
H+	6.2214E-07	9.2443E-05	9.2272E-04
M2	3.8405E-01	1.5558E-01	6.7082E-02

$P_1 = 2.00E+04 \text{ N/SQ-M}, \quad US1 = 1.90E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1479E+02	2.2583E+03	4.0349E+03
T	2.1475E+01	3.9707E+01	5.7726E+01
RHO	9.8425E+00	3.2931E+01	3.8724E+01
M	5.4582E+01	9.4358E+01	1.2904E+02
A	5.3955E+00	8.5762E+00	1.9321E+01
S	1.6181E+00	1.6966E+00	1.7599E+00
Z	1.4851E+00	1.7321E+00	1.8050E+00
GAME	9.3852E-01	1.0694E+00	1.0223E+00
U	1.4026E+01	4.2033E+00	4.7791E+00
SPECIES			
----- MOLE FRACTIONS -----			
E-	7.8117E-06	1.9063E-03	1.7801E-02
HE	1.3431E-01	1.1547E-01	1.1077E-01
HE+	7.1878E-14	1.1064E-07	2.8443E-05
HE++	4.3756E-50	6.2955E-27	3.9224E-18
H	6.5644E-01	9.3963E-01	8.3863E-01
H+	7.8117E-06	1.9359E-03	1.7773E-02
M2	2.0883E-01	4.1395E-02	1.5003E-02

P1 = 2.00E+04 M/50-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5175E+02	1.8463E+03	3.1037E+03
T	1.91C5E+01	3.1337E+01	4.3749E+01
RHO	9.6834E+03	3.6154E+01	4.1032E+01
H	4.3981E+01	7.6239E+01	1.0024E+02
A	4.7816E+00	7.1867E+00	8.9877E+00
S	1.5397E+00	1.6156E+00	1.6954E+00
Z	1.3608E+03	1.6296E+00	1.749E+00
GAME	8.7944E-01	1.0114E+00	1.0695E+00
U	1.2527E+01	3.3533E+00	3.8637E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.4933E-06	2.5870E-04	3.1818E-03
HE	1.4698E-01	1.2273E-01	1.1489E-01
ME+	1.2753E-15	9.7254E-10	4.5484E-07
ME++	2.794E-56	1.9547E-34	1.2755E-24
H	5.3023E-01	7.7191E-01	8.4159E-01
M+	1.4933E-06	2.5870E-04	3.1818E-03
M2	3.2279E-01	1.0484E-01	3.715E-02

P1 = 2.00E+04 M/50-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8251E+02	2.0616E+03	3.5745E+03
T	2.4233E+01	3.5157E+01	5.0732E+01
RHO	9.8057E+00	3.4724E+01	3.9701E+01
H	4.5C97E+01	9.5151E+01	1.1394E+02
A	5.07C5E+00	7.8872E+00	9.7245E+00
S	1.5789E+00	1.6543E+00	1.7240E+00
Z	1.4244E+00	1.6888E+00	1.775E+00
GAME	9.9237E-01	1.0475E+00	1.0503E+00
U	1.3283E+01	3.7501E+00	4.3564E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.4416E-06	7.1879E-04	8.6268E-03
HE	1.4645E-01	1.1843E-01	1.1262E-01
ME+	1.0693E-14	1.7903E-04	4.9725E-06
ME++	1.9568E-53	1.4245E-30	7.2067E-21
H	5.9545E-01	8.1355E-01	9.6785E-01
M+	3.4416E-06	7.1879E-04	8.6268E-03
M2	2.6409E-01	6.8590E-02	2.2273E-02

P1 = 2.00E+04 M/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4847E+02	2.4343E+03	4.4414E+03
T	2.29C3E+01	4.4759E+01	6.4054E+01
RHO	9.7877E+00	3.0863E+01	3.7988E+01
H	6.0344E+01	1.0387E+02	1.4229E+02
A	5.7521E+00	9.1701E+00	1.0842E+01
S	1.6565E+00	1.7243E+00	1.7922E+00
Z	1.5545E+00	1.7622E+00	1.8345E+00
GAME	9.2932E-01	1.7661E+00	1.7004E+00
U	1.4755E+01	4.6763E+00	5.1192E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.7840E-05	4.5170E-03	2.9863E-02
HE	1.2866E-01	1.1349E-01	1.0892E-01
ME+	4.9950E-13	9.5257E-07	9.9544E-05
ME++	4.95C3E-47	1.0244E-23	3.4257E-16
H	7.1336E-01	8.5153E-01	8.2029E-01
M+	1.7940E-05	4.5161E-03	2.9763E-02
M2	1.5795E-01	2.5965E-02	1.1365E-02

P1 = 2.00E+04 M/50-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8339E+02	2.5895E+03	4.8388E+03
T	2.46C2E+01	4.9973E+01	6.9762E+01
RHO	9.6324E+00	2.9019E+01	3.7172E+01
H	6.6427E+01	1.1370E+02	1.5670E+02
A	6.1718E+00	9.6594E+00	1.1323E+01
S	1.6949E+00	1.7544E+00	1.233E+00
Z	1.6179E+00	1.7837E+00	1.8648E+00
GAME	9.5699E-01	1.0456E+00	9.5499E-01
U	1.5455E+01	5.1295E+00	5.4081E+00

SPECIES ----- MOLE FRACTIONS -----

E-	4.2451E-05	9.2549E-03	4.3947E-02
HE	1.2362E-01	1.1203E-01	1.0493E-01
ME+	3.8746E-12	4.6467E-06	2.5516E-04
ME++	1.3011E-43	4.5790E-21	1.0808E-14
H	7.6347E-01	9.5221E-01	7.9454E-01
M+	4.2451E-05	9.2549E-03	4.3947E-02
M2	1.1263E-01	1.7235E-02	8.5979E-03

Table II. - Continued

$$P_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/50-M, US1 = 2.20E+04 M/SEC										P1 = 2.00E+04 N/50-M, US1 = 2.50E+04 M/SEC																					
MOVING SHOCK					STANDING SHOCK					REFLECTED SHOCK					MOVING SHOCK					STANDING SHOCK					REFLECTED SHOCK						
P	T	RMC	M	A	S	Z	GAPE	U		P	T	RMC	M	A	S	Z	GAPE	U		P	T	RMC	M	A	S	Z	GAPE	U			
4.5931E+02	2.7275E+03	5.4899E+01	2.7497E+01	1.2397E+02	1.0369E+01	1.7862E+03	1.0665E+00	1.221E+00	5.4792E+00	5.3130E+02	3.0021E+03	6.8012E+01	2.3463E+01	1.5677E+02	1.1160E+01	1.8299E+03	1.8813E+00	9.7337E-01	6.2354E+00	5.3130E+02	3.0021E+03	6.8012E+01	2.3463E+01	1.5677E+02	1.1160E+01	1.8299E+03	1.8813E+00	9.7337E-01	6.2354E+00		
2.6714E+01	5.4899E+01	2.7497E+01	1.2397E+02	1.0369E+01	1.7862E+03	1.0665E+00	1.221E+00	5.4792E+00		8.4024E+03	1.1160E+01	1.8299E+03	1.8813E+00	9.7337E-01	6.2354E+00																
9.3609E+00	2.7497E+01	1.2397E+02	1.0369E+01	1.7862E+03	1.0665E+00	1.221E+00	5.4792E+00			9.3316E+01	1.5677E+02	1.1160E+01	1.8299E+03	1.8813E+00	9.7337E-01	6.2354E+00															
7.2762E+01	1.2397E+02	1.0369E+01	1.7862E+03	1.0665E+00	1.221E+00	5.4792E+00				8.4024E+03	1.1160E+01	1.8299E+03	1.8813E+00	9.7337E-01	6.2354E+00																
6.6690E+00	1.0369E+01	1.7862E+03	1.0665E+00	1.221E+00	5.4792E+00					9.3316E+01	1.5677E+02	1.1160E+01	1.8299E+03	1.8813E+00	9.7337E-01	6.2354E+00															
1.7317E+03	1.7862E+03	1.0665E+00	1.221E+00	5.4792E+00						8.4024E+03	1.1160E+01	1.8299E+03	1.8813E+00	9.7337E-01	6.2354E+00																
1.6734E+00	1.0665E+00	1.221E+00	5.4792E+00							1.7768E+00	1.8813E+00	9.7337E-01	6.2354E+00																		
9.5319E-01	1.221E+00	5.4792E+00								1.0797E+00	9.7337E-01	6.2354E+00																			
1.6148E+01	5.4792E+00									1.8015E+01	6.2354E+00																				
SPECIES										SPECIES										SPECIES											
-----										-----										-----											
E-	1.0736E-04	1.0715E-02	4.8993E-02	1.0607E-01	2.4245E-03	5.9575E-15	7.9046E-01	4.8651E-02	5.6899E-03	E-	2.1601E-03	1.1256E-01	5.0293E-08	1.3668E-20	8.6787E-01	2.1600E-03	1.5245E-02			E-	2.1601E-03	1.1256E-01	5.0293E-08	1.3668E-20	8.6787E-01	2.1600E-03	1.5245E-02				
ME	1.1937E-01	1.1067E-01	1.0607E-01	2.4245E-03	5.9575E-15	7.9046E-01	4.8651E-02	5.6899E-03		ME	1.1256E-01	5.0293E-08	1.3668E-20	8.6787E-01	2.1600E-03	1.5245E-02					ME	1.1256E-01	5.0293E-08	1.3668E-20	8.6787E-01	2.1600E-03	1.5245E-02				
He+	3.5501E-11	1.7495E-06	5.2734E-04	1.3511E-13	7.6945E-01	5.8720E-02	6.9999E-03			He+	5.0293E-08	1.3668E-20	8.6787E-01	2.1600E-03	1.5245E-02						He+	5.0293E-08	1.3668E-20	8.6787E-01	2.1600E-03	1.5245E-02					
ME++	4.7443E-40	5.1693E-19	1.3511E-13	7.6945E-01	5.8720E-02	6.9999E-03				ME++	1.3668E-20	8.6787E-01	2.1600E-03	1.5245E-02							ME++	1.3668E-20	8.6787E-01	2.1600E-03	1.5245E-02						
H	8.0595E-01	9.4463E-01	7.6945E-01	1.6138E-02	1.2390E-02					H	8.6787E-01	2.1600E-03	1.5245E-02								H	8.6787E-01	2.1600E-03	1.5245E-02							
P+	1.0736E-04	1.0715E-02	4.8993E-02	1.0607E-01	2.4245E-03	5.9575E-15	7.9046E-01	4.8651E-02	5.6899E-03	P+	2.1600E-03	1.5245E-02									P+	2.1600E-03	1.5245E-02								
He	1.0736E-04	1.0715E-02	4.8993E-02	1.0607E-01	2.4245E-03	5.9575E-15	7.9046E-01	4.8651E-02	5.6899E-03	He	2.1600E-03	1.5245E-02									He	2.1600E-03	1.5245E-02								
H2	7.4460E-02	1.2390E-02								H2	1.5245E-02											H2	1.5245E-02								

P1 = 2.00E+04 N/50-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5591E+02	2.8345E+03	5.3571E+03
T	2.9434E+01	5.7629E+01	7.9434E+01
RHC	8.9935E+03	2.5990E+01	3.4867E+01
M	7.9358E+01	1.3454E+02	1.8563E+02
A	7.2521E+01	1.3452E+01	1.2185E+01
S	1.7866E+00	1.8162E+00	1.8827E+00
Z	1.7224E+00	1.8297E+00	1.9345E+00
GAPE	1.2375E+03	1.0012E+02	9.6622E-01
U	1.6790E+01	5.9124E+00	5.9403E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.9232E-04	2.5644E-02	7.5125E-02
HE	1.1611E-01	1.0926E-01	1.0245E-01
ME+	3.9653E-13	5.1262E-05	9.3742E-04
HE++	3.2879E-36	2.3824E-17	1.0599E-12
H	6.3748E-01	9.3265E-01	7.4168E-01
M+	2.9232E-04	2.5392E-02	7.4188E-02
M2	4.5321E-02	9.2107E-03	5.6154E-03

P1 = 2.00E+04 N/50-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9321E+02	2.9201E+03	5.4924E+03
T	3.2847E+01	6.3967E+01	8.3534E+01
RHC	8.5527E+00	2.4417E+01	3.3444E+01
M	8.6270E+01	1.4347E+02	2.0034E+02
A	7.8652E+00	1.3811E+01	1.2572E+01
S	1.7991E+00	1.8453E+00	1.9121E+00
Z	1.7554E+00	1.8564E+00	1.9707E+00
GAPE	1.0727E+00	9.8923E-01	9.6004E-01
U	1.7418E+01	6.0492E+00	6.3027E+00

SPECIES ----- MOLE FRACTIONS -----

E-	9.2164E-04	3.6465E-02	9.1238E-02
HE	1.1992E-01	1.0773E-01	9.9991E-02
ME+	4.8294E-09	1.2033E-04	1.4961E-03
HE++	2.8257E-32	4.9402E-16	5.6556E-12
H	8.2933E-01	8.1221E-01	7.1291E-01
M+	8.2163E-04	3.6345E-02	8.9742E-02
M2	2.6108E-02	7.1326E-03	4.6245E-03

P1 = 2.00E+04 N/50-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.7102E+02	3.1084E+03	5.7436E+03
T	4.0954E+01	7.1853E+01	9.1045E+01
RHC	7.7823E+03	2.2631E+01	3.0924E+01
M	1.0071E+02	1.6862E+02	2.2976E+02
A	8.8210E+00	1.1511E+01	1.3313E+01
S	1.8056E+00	1.9307E+00	1.9690E+00
Z	1.7914E+00	1.9104E+00	2.0469E+00
GAPE	1.6605E+00	9.6468E-01	9.5118E-01
U	1.8625E+01	6.3998E+00	6.2919E+00

SPECIES ----- MOLE FRACTIONS -----

E-	4.8993E-03	6.2470E-02	1.2381E-01
HE	1.1163E-01	1.0425E-01	9.4580E-02
ME+	3.6680E-07	4.3992E-04	3.1359E-03
HE++	1.7581E-25	4.9806E-14	8.2683E-11
H	8.6500E-01	7.6615E-01	6.5655E-01
M+	4.8975E-03	6.2030E-02	1.2067E-01
M2	9.5710E-03	4.6576E-03	3.2504E-03

P1 = 2.00E+04 N/50-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.1261E+02	3.2431E+03	5.9347E+03
T	4.5103E+01	7.5665E+01	9.4710E+01
RHC	7.5222E+00	2.2073E+01	3.0029E+01
M	1.0840E+02	1.8107E+02	2.5553E+02
A	9.1622E+00	1.1866E+01	1.3688E+01
S	1.8821E+00	1.9268E+00	1.9961E+00
Z	1.8054E+00	1.9419E+00	2.0467E+00
GAPE	1.0308E+00	9.5830E-01	9.4796E-01
U	1.9239E+01	6.5533E+00	6.4265E+00

SPECIES ----- MOLE FRACTIONS -----

E-	9.5759E-03	7.6916E-02	1.4019E-01
HE	1.1077E-01	1.0226E-01	9.1571E-02
ME+	1.8717E-06	7.3745E-04	4.2673E-03
HE++	6.1654E-23	3.1832E-13	2.6004E-10
H	8.6359E-01	7.4622E-01	6.2550E-01
M+	9.5740E-03	7.6117E-02	1.3591E-01
M2	6.4992E-03	3.9919E-03	2.7744E-03

$$p_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+C4 N/SQ-M, U51 = 2.80E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.5671E+02	3.4256E+03	6.2191E+03
T	4.892CE+01	7.9424E+01	9.8517E+01
RHC	7.3744E+00	2.1835E+C1	2.9659E+01
M	1.1642E+02	1.9427E+02	2.6240E+02
H	9.4560E+00	1.2231E+01	1.4079E+01
A	1.9057E+00	1.9517E+00	2.0223E+00
S	1.82CAE+00	1.9753E+00	2.1284E+00
Z	1.0041E+00	3.5361E-01	5.4536E-01
GAPE	1.9889E+01	6.7143E+00	6.5777E+00
U			

P1 = 2.00E+C4 N/SQ-M, U51 = 3.20E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.5502E+02	4.4504E+C3	7.9910E+03
T	6.2046E+01	9.4176E+01	1.1440E+02
RHC	7.2432E+C0	2.2231E+01	2.9898E+01
H	1.5165E+01	2.5366E+02	3.3869E+02
A	1.0574E+01	1.3742E+01	1.5765E+01
S	1.9932E+00	2.0459E+00	2.1230E+00
Z	1.9025E+00	2.1252E+00	2.3070E+00
GAPE	9.4713E-01	9.43C9E-01	9.4167E-01
U	2.2666E+01	7.3874E+00	7.2425E+00

P1 = 2.00E+C4 N/SQ-M, U51 = 2.80E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.5671E+02	3.4256E+03	6.2191E+03
T	4.892CE+01	7.9424E+01	9.8517E+01
RHC	7.3744E+00	2.1835E+C1	2.9659E+01
M	1.1642E+02	1.9427E+02	2.6240E+02
H	9.4560E+00	1.2231E+01	1.4079E+01
A	1.9057E+00	1.9517E+00	2.0223E+00
S	1.82CAE+00	1.9753E+00	2.1284E+00
Z	1.0041E+00	3.5361E-01	5.4536E-01
GAPE	1.9889E+01	6.7143E+00	6.5777E+00
U			

P1 = 2.00E+C4 N/SQ-M, U51 = 2.80E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.5502E+02	4.4504E+C3	7.9910E+03
T	6.2046E+01	9.4176E+01	1.1440E+02
RHC	7.2432E+C0	2.2231E+01	2.9898E+01
H	1.5165E+01	2.5366E+02	3.3869E+02
A	1.0574E+01	1.3742E+01	1.5765E+01
S	1.9932E+00	2.0459E+00	2.1230E+00
Z	1.9025E+00	2.1252E+00	2.3070E+00
GAPE	9.4713E-01	9.43C9E-01	9.4167E-01
U	2.2666E+01	7.3874E+00	7.2425E+00

P1 = 2.00E+C4 N/SQ-M, U51 = 2.80E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.5502E+02	4.4504E+C3	7.9910E+03
T	6.2046E+01	9.4176E+01	1.1440E+02
RHC	7.2432E+C0	2.2231E+01	2.9898E+01
H	1.5165E+01	2.5366E+02	3.3869E+02
A	1.0574E+01	1.3742E+01	1.5765E+01
S	1.9932E+00	2.0459E+00	2.1230E+00
Z	1.9025E+00	2.1252E+00	2.3070E+00
GAPE	9.4713E-01	9.43C9E-01	9.4167E-01
U	2.2666E+01	7.3874E+00	7.2425E+00

P1 = 2.00E+C4 N/SQ-M, U51 = 2.80E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.5502E+02	4.4504E+C3	7.9910E+03
T	6.2046E+01	9.4176E+01	1.1440E+02
RHC	7.2432E+C0	2.2231E+01	2.9898E+01
H	1.5165E+01	2.5366E+02	3.3869E+02
A	1.0574E+01	1.3742E+01	1.5765E+01
S	1.9932E+00	2.0459E+00	2.1230E+00
Z	1.9025E+00	2.1252E+00	2.3070E+00
GAPE	9.4713E-01	9.43C9E-01	9.4167E-01
U	2.2666E+01	7.3874E+00	7.2425E+00

P1 = 2.00E+C4 N/SQ-M, U			
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P1 = 2.00E+04 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.0302E+02	3.6392E+03	6.5600E+03
T	5.2522E+01	8.3146E+01	1.0238E+02
RHO	7.2841E+00	2.1769E+01	2.9507E+01
M	1.2475E+02	2.0914E+02	2.8015E+02
A	9.7387E+00	1.2602E+01	1.4482E+01
S	1.5286E+00	1.9760E+00	2.0480E+00
Z	1.8376E+00	2.0106E+00	2.1715E+00
GAME	9.8267E-01	9.5005E-01	9.4336E-01
U	2.0559E+01	6.8766E+00	6.7346E+00

SPECIES	MOLE FRACTIONS
E-	2.4185E-02
HE	1.0802E-01
HEP	1.8227E-03
HE++	2.2029E-19
H	8.3908E-01
H+	2.4166E-02
H2	3.7312E-03
E-	1.0759E-01
HE	9.7720E-02
HEP	1.7546E-03
HE++	7.4613E-12
H	6.8425E-01
H+	1.0593E-01
H2	2.8600E-03
E-	1.7315E-01
HE	8.4794E-02
HEP	7.3098E-03
HE++	2.0951E-09
H	5.6818E-01
H+	1.6594E-01
H2	2.0873E-03

P1 = 2.00E+04 N/SQ-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5155E+02	3.9934E+03	6.9969E+03
T	5.5887E+01	8.6847E+01	1.0632E+02
RHO	7.2412E+00	2.1940E+01	2.9511E+01
M	1.3341E+02	2.2267E+02	2.9880E+02
A	1.0017E+01	1.2975E+01	1.4996E+01
S	1.9506E+00	1.9997E+00	2.0733E+00
Z	1.8571E+00	2.0475E+00	2.2157E+00
GAME	9.6682E-01	9.4725E-01	9.4201E-01
U	2.1240E+01	7.0425E+00	6.8979E+00

SPECIES	MOLE FRACTIONS
E-	3.3775E-02
HE	1.0765E-01
HEP	4.1941E-03
HE++	4.4349E-18
H	8.2178E-01
H+	3.3733E-02
H2	3.0209E-03
E-	1.2336E-01
HE	9.5155E-02
HEP	2.5269E-03
HE++	2.8789E-11
H	6.5564E-01
H+	1.2083E-01
H2	2.4926E-03
E-	1.9943E-01
HE	8.1071E-02
HEP	9.1955E-03
HE++	5.3439E-09
H	5.3824E-01
H+	1.8023E-01
H2	1.8286E-03

P1 = 2.00E+04 N/SQ-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.6644E+02	5.1062E+03	8.9795E+03
T	6.7652E+01	1.0149E+02	1.2280E+02
RHO	7.3075E+00	2.2797E+01	3.0446E+01
M	1.7113E+02	2.8706E+02	3.9190E+02
A	1.1132E+01	1.4513E+01	1.6697E+01
S	2.0344E+00	2.0913E+00	2.1722E+00
Z	1.9540E+00	2.2069E+00	2.4018E+00
GAME	9.3706E-01	9.4040E-01	9.4523E-01
U	2.4116E+01	7.7230E+00	7.6152E+00

SPECIES	MOLE FRACTIONS
E-	8.0812E-02
HE	1.0190E-01
HEP	4.0082E-04
HE++	1.5496E-14
H	7.3476E-01
H+	9.0441E-02
H2	1.6096E-03
E-	1.8589E-01
HE	9.2999E-02
HEP	7.7367E-03
HE++	2.1693E-09
H	5.8380E-01
H+	1.7816E-01
H2	1.5265E-03
E-	2.5167E-01
HE	6.4942E-02
HEP	1.8329E-02
HE++	1.2654E-07
H	4.3062E-01
H+	2.3334E-01
H2	1.1030E-03

P1 = 2.00E+04 N/SQ-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0855E+03	5.8323E+03	1.0202E+04
T	7.2845E+01	1.2876E+02	1.2163E+02
RHO	7.3985E+00	2.3404E+01	3.1004E+01
M	1.9182E+02	3.2270E+02	4.2844E+02
A	1.1593E+01	1.5301E+01	1.7711E+01
S	2.3751E+00	2.1361E+00	2.2211E+00
Z	2.0129E+00	2.2912E+00	2.4994E+00
GAME	9.3197E-01	9.3954E-01	9.5323E-01
U	2.5595E+01	9.0440E+00	8.0265E+00

SPECIES	MOLE FRACTIONS
E-	1.0702E-01
HE	9.8498E-02
HEP	9.6131E-04
HE++	2.5235E-13
H	6.8621E-01
H+	1.3616E-01
H2	1.2516E-03
E-	2.1560E-01
HE	7.5764E-02
HEP	1.1525E-02
HE++	4.7401E-07
H	3.8065E-01
H+	4.9142E-01
H2	2.0407E-01
E-	2.8079E-01
HE	5.6912E-02
HEP	2.3094E-02
HE++	3.0045E-07
H	7.3773E-01
H+	9.5024E-04

Table II. - Continued

$$P_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1 = 4.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2119E+03	6.6244E+03	1.1542E+04
T	7.7874E+01	1.1609E+02	1.4104E+02
RHC	7.4985E+00	2.4001E+01	3.1471E+01
H	2.1372E+02	3.6033E+02	4.7815E+02
A	1.2256E+01	1.6117E+01	1.8918E+01
S	2.1153E+00	2.1866E+00	2.2698E+00
Z	2.0753E+03	2.3775E+00	2.6004E+00
GAME	9.2947E-01	9.4119E-01	9.6555E-01
U	2.7362E+01	8.4481E+00	8.4648E+00
P1 = 2.00E+04 N/SQ-M, US1 = 4.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6335E+03	9.2922E+03	1.6276E+04
T	9.2016E+01	1.3924E+02	1.7511E+02
RHC	7.7817E+00	2.5229E+01	3.1903E+01
H	2.8656E+02	4.8615E+02	6.4939E+02
A	1.3936E+01	1.8833E+01	2.2811E+01
S	2.2346E+03	2.3122E+00	2.4150E+00
Z	2.2813E+03	2.6451E+00	2.9133E+00
GAME	9.2791E-01	9.6505E-01	1.0199E+00
U	3.1510E+01	9.7127E+00	1.0164E+01
P1 = 2.00E+04 N/SQ-M, US1 = 4.40E+04 M/SEC			
SPECIES	MOLE FRACTIONS		
E-	2.1149E-01	3.1997E-01	3.8238E-01
HE	8.1312E-02	4.7121E-02	3.2304E-02
HE+	6.3574E-03	2.8489E-02	3.8308E-02
HE++	4.5290E-10	1.5533E-06	3.7344E-05
H	4.9520E-01	3.1247E-01	2.0274E-01
H+	2.0513E-01	2.9149E-01	3.4600E-01
H2	5.1493E-04	4.6773E-04	2.2925E-04

P1 = 2.00E+04 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3454E+03	7.4699E+03	1.3002E+04
T	8.2689E+01	1.2354E+02	1.5131E+02
RHO	7.5983E+00	2.4524E+01	3.1776E+01
H	2.3681E+02	4.0043E+02	5.3145E+02
A	1.2821E+01	1.6974E+01	2.0042E+01
S	2.1552E+00	2.2244E+00	2.3187E+00
Z	2.1413E+00	2.4655E+00	2.7042E+00
GAME	9.2831E-01	9.4592E-01	9.8165E-01
U	2.8554E+01	8.8373E+00	8.9640E+00

SPECIES	MOLE FRACTIONS
E-	1.6018E-01
HE	9.0662E-02
ME+	2.7390E-03
ME++	1.8143E-11
H	5.8195E-01
M+	1.5744E-01
M2	7.9315E-04
E-	1.6018E-01
HE	9.0662E-02
ME+	2.7390E-03
ME++	1.8143E-11
H	5.8195E-01
M+	1.5744E-01
M2	7.9315E-04

P1 = 2.00E+04 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3454E+03	7.4699E+03	1.3002E+04
T	8.2689E+01	1.2354E+02	1.5131E+02
RHO	7.5983E+00	2.4524E+01	3.1776E+01
H	2.3681E+02	4.0043E+02	5.3145E+02
A	1.2821E+01	1.6974E+01	2.0042E+01
S	2.1552E+00	2.2244E+00	2.3187E+00
Z	2.1413E+00	2.4655E+00	2.7042E+00
GAME	9.2831E-01	9.4592E-01	9.8165E-01
U	2.8554E+01	8.8373E+00	8.9640E+00

SPECIES	MOLE FRACTIONS
E-	1.6018E-01
HE	9.0662E-02
ME+	2.7390E-03
ME++	1.8143E-11
H	5.8195E-01
M+	1.5744E-01
M2	7.9315E-04
E-	1.6018E-01
HE	9.0662E-02
ME+	2.7390E-03
ME++	1.8143E-11
H	5.8195E-01
M+	1.5744E-01
M2	7.9315E-04

P1 = 2.00E+04 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7879E+03	1.0253E+04	1.8086E+04
T	9.6606E+01	1.4770E+02	1.5907E+02
RHO	7.8613E+00	2.5373E+01	3.1736E+01
H	3.1322E+02	5.3180E+02	7.1419E+02
A	1.4530E+01	1.9887E+01	2.4246E+01
S	2.2742E+00	2.3552E+00	2.4619E+00
Z	2.3542E+00	2.7358E+00	3.0142E+00
GAME	9.2822E-01	9.7871E-01	1.0392E+00
U	3.2992E+01	1.0215E+01	1.0862E+01

SPECIES	MOLE FRACTIONS
E-	2.3584E-01
HE	7.6043E-02
ME+	8.9099E-03
ME++	1.7439E-09
H	4.5186E-01
M+	2.2633E-01
M2	4.1504E-04
E-	2.3584E-01
HE	7.6043E-02
ME+	8.9099E-03
ME++	1.7439E-09
H	4.5186E-01
M+	2.2633E-01
M2	4.1504E-04

P1 = 2.00E+04 N/SQ-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9492E+03	1.1233E+04	2.0015E+04
T	1.0119E+02	1.5669E+02	2.0477E+02
RHO	7.9312E+00	2.5369E+01	3.1431E+01
H	3.4105E+02	5.7921E+02	7.9331E+02
A	1.5112E+01	2.0982E+01	2.5938E+01
S	2.3138E+00	2.3976E+00	2.5380E+00
Z	2.4286E+00	2.8263E+00	3.1098E+00
GAME	9.2922E-01	9.9417E-01	1.0565E+00
U	3.4470E+01	1.0771E+01	1.1648E+01

SPECIES	MOLE FRACTIONS
E-	2.5918E-01
HE	7.0418E-02
ME+	1.1933E-02
ME++	5.8671E-09
H	4.1009E-01
M+	2.4724E-01
M2	3.3503E-04
E-	2.5918E-01
HE	7.0418E-02
ME+	1.1933E-02
ME++	5.8671E-09
H	4.1009E-01
M+	2.4724E-01
M2	3.3503E-04

P1 = 2.00E+04 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4850E+03	9.3619E+03	1.4579E+04
T	8.7388E+01	1.3122E+02	1.6292E+02
RHO	7.6935E+00	2.4942E+01	3.1943E+01
H	2.6109E+02	4.4233E+02	5.8848E+02
A	1.3397E+01	1.7593E+01	2.1364E+01
S	2.1949E+00	2.2687E+00	2.3667E+00
Z	2.2101E+00	2.5545E+00	2.9093E+00
GAME	9.2784E-01	9.5394E-01	1.0001E+00
U	3.0027E+01	9.2559E+00	9.5239E+00

SPECIES	MOLE FRACTIONS
E-	1.8621E-01
HE	6.6197E-02
ME+	4.3044E-03
ME++	1.0022E-10
H	5.4075E-01
M+	1.9191E-01
M2	6.3824E-04
E-	1.8621E-01
HE	6.6197E-02
ME+	4.3044E-03
ME++	1.0022E-10
H	5.4075E-01
M+	1.9191E-01
M2	6.3824E-04

Table II. - Continued

$$P_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1 = 5.00E+04 P/SEC				P1 = 2.00E+04 N/SQ-M, US1 = 5.00E+04 P/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1172E+03	1.2227E+04	2.2040E+04	P	2.6597E+03	1.5157E+04	2.8517E+04
T	1.0581E+02	1.6632E+02	2.2212E+02	T	1.2034E+02	1.9972E+02	2.8179E+02
RHC	7.9901E+00	2.5224E+01	3.1043E+01	RHO	8.0771E+03	2.4044E+01	2.9643E+01
M	3.7007E+02	6.2830E+02	8.5610E+02	M	4.6412E+02	7.8452E+02	1.0955E+03
A	1.5768E+01	2.2133E+01	2.7547E+01	A	1.7644E+01	2.5814E+01	3.1933E+01
S	2.3533E+02	2.4392E+00	2.5525E+00	S	2.4718E+00	2.5505E+00	2.6785E+00
Z	2.5042E+03	2.9146E+00	3.1963E+00	Z	2.733E+00	3.1565E+00	3.3906E+00
GAME	9.3120E-01	1.0106E+00	1.0699E+00	GAME	9.4565E-01	1.0570E+00	1.0607E+00
U	3.5945E+01	1.1379E+01	1.2465E+01	U	4.0321E+01	1.3541E+01	1.5086E+01
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	2.9147E-01	3.9260E-01	4.3691E-01	E-	3.4230E-01	4.2980E-01	4.7054E-01
FE	6.4511E-02	3.1768E-02	2.1628E-02	FE	4.6226E-02	2.1967E-02	1.3284E-02
HE+	1.5356E-02	3.6830E-02	4.0337E-02	HE+	2.6826E-02	4.1151E-02	3.9921E-02
ME++	1.7746E-08	2.3285E-05	6.0425E-04	ME++	3.0917E-07	2.4399E-04	5.6230E-03
H	3.7229E-01	2.0287E-01	1.0510E-01	H	2.6904E-01	1.1961E-01	5.1247E-02
M+	2.6611E-01	3.4572E-01	3.9536E-01	M+	3.0154E-01	3.8814E-01	4.1937E-01
M2	2.6515E-04	1.8807E-04	5.7780E-05	M2	1.3303E-04	5.9269E-05	1.2843E-05

P1 = 2.00E+04 N/50-M, US1 = 5.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8536E+03	1.6100E+04	3.0732E+04
T	1.2553E+02	2.1256E+02	3.0394E+02
RHO	8.0780E+00	2.3496E+01	2.9293E+01
H	4.9779E+02	8.3938E+01	1.8049E+03
A	1.9353E+01	2.7056E+01	3.3249E+01
S	2.5105E+00	2.5961E+00	2.7168E+00
Z	2.9135E+00	3.2251E+00	3.4518E+00
GAME	9.5368E-01	1.0679E+00	1.0536E+00
U	4.1762E+01	1.4350E+01	1.5911E+01

SPECIES	MOLE FRACTIONS
E-	3.6033E-01
HE	4.4190E-01
HE+	1.9456E-02
HE++	3.0602E-02
H	4.2957E-02
H+	5.0249E-04
H2	7.1453E-07
	9.7216E-02
	2.3875E-01
	3.9883E-01
	3.2973E-01
	1.0254E-04
	3.9534E-05
	4.7854E-01
	1.0750E-02
	3.7844E-02
	9.3421E-03
	4.1491E-02
	4.2231E-01
	9.3015E-06

P1 = 2.00E+04 N/50-P, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0921E+03	1.7023E+04	3.2931E+04
T	1.3099E+02	2.2617E+02	3.2525E+02
RHO	9.0623E+00	2.2903E+01	2.9930E+01
H	5.3261E+02	8.9568E+01	1.2672E+03
A	1.9101E+01	2.9249E+01	3.4411E+01
S	2.5485E+00	2.6322E+00	2.7537E+00
Z	2.8901E+00	3.2957E+00	3.6998E+00
GAME	9.6370E-01	1.0738E+00	1.0524E+00
U	4.3199E+01	1.5197E+01	1.6696E+01

SPECIES	MOLE FRACTIONS
E-	3.7725E-01
HE	3.5128E-02
HE+	3.4074E-02
HE++	1.5893E-06
H	2.1030E-01
H+	3.4317E-01
H2	7.0399E-05
	4.5220E-01
	1.7194E-02
	4.2684E-02
	9.9224E-04
	7.9375E-02
	3.4114E-02
	4.2305E-01
	5.5471E-06

P1 = 2.00E+04 N/50-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2919E+03	1.3228E+04	2.4185E+04
T	1.1048E+02	1.7687E+02	2.4175E+02
RHO	8.0400E+00	2.4955E+01	3.0543E+01
H	4.0024E+02	6.7899E+01	9.3333E+01
A	1.6332E+01	2.3333E+01	2.9155E+01
S	2.3924E+00	2.4799E+00	2.5972E+00
Z	2.5901E+00	3.0301E+00	3.2755E+00
GAME	9.3433E-01	1.0272E+00	1.0735E+00
U	3.7416E+01	1.2044E+01	1.3375E+01

SPECIES	MOLE FRACTIONS
E-	3.0257E-01
HE	4.0015E-01
HE+	1.8659E-02
HE++	2.8021E-02
H	3.8592E-02
H+	5.2611E-05
H2	1.4327E-03
	8.1752E-02
	4.0666E-01
	3.4060E-05
	1.7161E-01
	3.6145E-01
	1.3155E-04
	4.5049E-01
	1.8659E-02
	4.0968E-02
	1.4327E-03
	8.1752E-02
	4.0666E-01
	3.4060E-05

P1 = 2.00E+04 N/50-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4727E+03	1.4208E+04	2.6339E+04
T	1.1531E+02	1.8779E+02	2.6189E+02
RHO	8.0691E+00	2.4557E+01	3.3100E+01
H	4.3162E+02	7.3109E+01	1.0129E+03
A	1.6963E+01	2.4566E+01	3.0591E+01
S	2.4323E+00	2.5196E+00	2.6384E+00
Z	2.6575E+00	3.0811E+00	3.3413E+00
GAME	9.3937E-01	1.0430E+00	1.0694E+00
U	3.8874E+01	1.2764E+01	1.4223E+01

SPECIES	MOLE FRACTIONS
E-	3.2287E-01
HE	5.2322E-02
HE+	2.2924E-02
HE++	1.2617E-07
H	3.0177E-01
H+	2.9937E-01
H2	1.7048E-04
	4.1589E-01
	2.4792E-02
	4.3004E-02
	1.1502E-04
	2.9966E-03
	6.4403E-02
	3.7566E-01
	9.4558E-05
	2.0677E-05

P1 = 2.00E+04 N/50-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1222E+03	2.0998E+04	4.2952E+04
T	1.6603E+02	3.0072E+02	4.4911E+02
RHO	7.6477E+00	1.9900E+01	2.5980E+01
M	7.2332E+02	1.1967E+03	1.7421E+03
A	2.3665E+01	3.3243E+01	4.2989E+01
S	2.7326E+00	2.8018E+00	2.9257E+00
Z	3.2470E+00	3.5087E+00	3.6012E+00
GAML	1.0390E+00	1.0474E+00	1.1179E+00
U	5.0001E+01	1.9203E+01	2.0864E+01

SPECIES	MOLE FRACTIONS
E-	4.4563E-01
HE	1.5681E-02
HE+	4.5844E-02
HE++	7.1731E-05
H	9.3080E-02
H+	3.9966E-01
H2	1.3391E-05

P1 = 2.00E+04 N/50-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4663E+03	1.8712E+04	3.7163E+04
T	1.4317E+02	2.5517E+02	3.6957E+02
RHO	7.9617E+00	2.1648E+01	2.8952E+01
M	6.0561E+02	1.0117E+03	1.4480E+03
A	2.0759E+01	3.3399E+01	3.7632E+01
S	2.6235E+00	2.7020E+00	2.8238E+00
Z	3.0409E+00	3.3976E+00	3.5466E+00
GAME	9.8572E-01	1.0684E+00	1.0690E+00
U	4.5944E+01	1.6926E+01	1.8243E+01

SPECIES	MOLE FRACTIONS
E-	4.3811E-01
HE	2.5775E-02
HE+	3.9988E-02
HE++	7.4333E-06
H	1.5757E-01
H+	3.6811E-01
H2	4.2259E-05

P1 = 2.00E+04 N/50-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6804E+03	1.9505E+04	3.9165E+04
T	1.5011E+02	2.7017E+02	3.9407E+02
RHO	7.9735E+00	2.1044E+01	2.7437E+01
M	6.4376E+02	1.0719E+03	1.5428E+03
A	2.1677E+01	3.1345E+01	3.9342E+01
S	2.6612E+00	2.7357E+00	2.8586E+00
Z	3.1139E+00	3.4307E+00	3.6219E+00
GAME	1.0053E+00	1.0600E+00	1.0844E+00
U	4.7344E+01	1.7721E+01	1.9374E+01

SPECIES	MOLE FRACTIONS
E-	4.2197E-01
HE	2.1859E-02
HE+	4.2354E-02
HE++	1.5936E-05
H	1.3418E-01
H+	3.7959E-01
H2	2.9601E-05

Table II. - Continued

$$p_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 4.00E+03 M/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 7.00E+03 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	Y	RHO	M	P	Y	RHO	M
1.2572E+01	2.6293E+01	6.5073E+01	6.5073E+01	3.5438E+01	1.3737E+02	1.6474E+01	2.6431E+02
3.1753E+00	3.9838E+00	5.7063E+00	5.7063E+00	7.4624E+00	1.6474E+01	1.3737E+02	1.2997E+01
3.9601E+00	6.6099E+00	1.1403E+01	1.1403E+01	5.2830E+00	1.3737E+02	1.6474E+01	1.0903E+01
3.2467E+00	4.1057E+00	6.0158E+00	6.0158E+00	9.0857E+00	1.2123E+01	1.6434E+01	1.6434E+01
1.7759E+00	1.9770E+00	2.3404E+00	2.3404E+00	2.66477E+00	3.0743E+00	3.4121E+00	3.4121E+00
1.0780E+00	1.0803E+00	1.1024E+00	1.1024E+00	1.1933E+00	1.2059E+00	1.2371E+00	1.2371E+00
1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00
9.9100E-01	9.9100E-01	9.9100E-01	9.9100E-01	9.9100E-01	8.5697E-01	9.7319E-01	9.7319E-01
2.4572E+00	1.4729E+00	1.3084E+00	1.3084E+00	4.6636E+00	1.8895E+00	1.6981E+00	1.6981E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.1175E-54	6.2699E-42	3.8904E-26	F-	1.3447E-17	1.1204E-12	2.9062E-10
HE	2.0000E-01	2.0000E-01	2.0000E-01	HE	1.9943E-01	1.9871E-01	1.5495E-01
HE+	2.5193E-63	5.0646E-56	1.0295E-46	HE+	3.2641E-39	1.0103E-29	1.0596E-22
HE++	0.	0.	0.	HE++	0.	0.	5.4670E-82
H	5.5199E-11	1.7692E-08	1.3075E-05	H	7.0422E-04	1.2867E-02	5.0457E-02
H+	7.2402E-20	7.2402E-20	7.2402E-20	H+	1.3519E-17	1.1204E-12	2.8062E-10
H2	8.0000E-01	8.0000E-01	7.9999E-01	H2	7.9937E-01	7.9844E-01	7.5455E-01

P1 = 5.00E+04 N/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9811E+01	5.2082E+01	1.1601E+02
T	4.4045E+00	5.9053E+00	8.1547E+00
RHC	4.4957E+00	8.4179E+00	1.4218E+01
M	4.5641E+00	6.2435E+00	8.9300E+00
A	2.0733E+00	2.3781E+00	2.7594E+00
S	1.1182E+00	1.1236E+00	1.1499E+00
Z	1.0006E+00	1.0006E+00	1.0006E+00
GAME	9.7554E-01	9.5765E-01	9.3321E-01
U	3.1952E+00	1.6274E+00	1.4782E+00

SPECIES	MOLE FRACTIONS
E-	2.5883E-38
HE	2.0000E-01
ME+	3.3151E-54
HE++	0.
H	2.2716E-07
M+	7.2402E-20
M2	8.0000E-01

P1 = 5.00E+04 N/SQ-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1974E+01	2.0377E+02	3.649CF+02
T	9.1637E+00	1.2683E+01	1.510JE+01
RHC	5.6544E+00	1.5684E+01	2.2542E+01
M	1.0299E+01	1.5959E+01	2.1160E+01
A	2.1923E+00	3.3661E+00	3.7241E+00
S	1.2281E+00	1.2457E+00	1.2831E+00
Z	1.0030E+00	1.0247E+00	1.0291E+00
GAME	9.1021E-01	9.7211E-01	9.6741E-01
U	5.4114E+00	1.5495E+00	1.7710E+00

SPECIES	MOLE FRACTIONS
E-	3.2173E-14
HE	1.9940E-01
ME+	1.4224E-31
HE++	0.
H	5.5763E-03
M+	3.2173E-14
M2	7.9462E-01

P1 = 5.00E+04 N/SQ-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8751E+01	9.8220E+01	1.921CE+02
T	5.8463E+00	8.1269E+00	1.0695E+01
RHC	4.9186E+00	1.0849E+01	1.6913E+01
M	6.1761E+00	8.8994E+00	1.2416E+01
A	2.3669E+00	2.7537E+00	3.1076E+00
S	1.1567E+00	1.1655E+00	1.1942E+00
Z	1.0006E+00	1.0006E+00	1.0006E+00
GAME	9.5820E-01	9.3249E-01	8.9694E-01
U	3.9282E+00	1.7799E+00	1.6116E+00

SPECIES	MOLE FRACTIONS
E-	1.1861E-23
HE	2.0000E-01
ME+	9.9262E-47
HE++	0.
H	2.8150E-05
M+	7.2389E-20
M2	7.9997E-01

P1 = 5.00E+04 N/SQ-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.6510E+01	2.9213E+02	5.0082E+02
T	1.0791E+01	1.4719E+01	1.7164E+01
RHC	6.0972E+00	1.8785E+01	2.6399E+01
M	1.2921E+01	2.0419E+01	2.6413E+01
A	3.0991E+00	3.6679E+00	4.0671E+00
S	1.2619E+00	1.2861E+00	1.3240E+00
Z	1.0119E+00	1.0565E+00	1.1053E+00
GAME	9.8034E-01	9.6513E-01	9.7199E-01
U	6.1827E+00	2.0060E+00	1.8574E+00

SPECIES	MOLE FRACTIONS
E-	4.8959E-12
HE	1.9764E-01
ME+	5.1942E-27
HE++	0.
H	3.3610E-02
M+	4.8999E-01
M2	7.7875E-01

Table II. - Continued

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 1.30E+04 M/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 1.30E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P				P			
T				T			
RHO				RHO			
M				M			
A				A			
S				S			
Z				Z			
GAME				GAME			
U				U			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.3573E-10	5.0533E-09	4.8794E-07	E-	4.0159E-08	5.1366E-06	3.2849E-05
HE	1.9429E-01	1.8179E-01	1.7194E-01	HE	1.7763E-01	1.5597E-01	1.4394E-01
HE+	6.3358E-24	7.5222E-18	1.4136E-15	HE+	1.3089E-18	2.4578E-13	2.0703E-11
HE++	1.9457E-87	1.0519E-64	1.1935E-56	HE++	1.1602E-67	1.5027E-48	1.4826E-40
H	5.7127E-02	1.9211E-01	2.8059E-01	H	2.2369E-01	4.5326E-01	5.6155E-01
H+	1.3973E-10	5.0533E-09	4.8794E-07	H+	4.0159E-08	5.1366E-06	3.2849E-05
H2	7.4859E-01	6.3610E-01	5.4745E-01	H2	5.9869E-01	4.0376E-01	2.9455E-01

P1 = 5.00E+04 N/50-M, US1= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0164E+02	5.4470E+02	8.8533E+02
T	1.3527E+01	1.8644E+01	2.1571E+01
RHO	7.1233E+00	2.5325E+01	3.3337E+01
M	1.8795E+01	3.1142E+01	3.9495E+01
A	3.4936E+00	4.3466E+00	4.8883E+00
S	1.3301E+00	1.3692E+00	1.4149E+00
Z	1.0549E+00	1.1535E+00	1.2311E+00
GAME	8.5931E-01	8.7851E-01	8.9905E-01
U	7.7766E+00	2.1847E+00	2.1100E+00

SPECIES	M-XE FRACTIONS
E-	1.5040E-09
ME	1.8959E-01
ME+	9.6605E-22
ME++	3.2408E-78
M	1.0411E-01
M+	1.5040E-09
M2	7.0630E-01

P1 = 5.00E+04 N/50-M, US1= 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2204E+02	7.0662E+02	1.1371E+03
T	1.4733E+01	2.0654E+01	2.4345E+01
RHO	7.6178E+00	2.8156E+01	3.6133E+01
M	2.2225E+01	3.7335E+01	4.7233E+01
A	3.7005E+00	4.7318E+00	5.3838E+00
S	1.3652E+00	1.4116E+00	1.4616E+00
Z	1.0674E+00	1.2147E+00	1.3077E+00
GAME	8.5451E-01	8.9242E-01	9.2108E-01
U	8.5666E+00	2.3152E+00	2.2882E+00

SPECIES	M-XE FRACTIONS
E-	9.2714E-09
ME	1.8393E-01
ME+	5.2544E-20
ME++	2.0479E-73
M	1.6072E-01
M+	9.2714E-09
M2	6.5535E-01

P1 = 5.00E+04 N/50-M, US1= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6815E+02	1.0952E+03	1.7541E+03
T	1.7617E+01	2.5019E+01	3.0201E+01
RHO	8.4488E+00	3.2328E+01	3.9334E+01
M	2.9984E+01	5.1245E+01	6.5328E+01
A	4.1452E+00	5.6152E+00	6.6073E+00
S	1.4377E+00	1.4568E+00	1.5554E+00
Z	1.1699E+00	1.3543E+00	1.4764E+00
GAME	8.6315E-01	9.3052E-01	9.7886E-01
U	1.6143E+00	2.6743E+00	2.7731E+00

SPECIES	M-XE FRACTIONS
E-	1.3784E-07
ME	1.7306E-01
ME+	1.9847E-17
ME++	2.5128E-63
M	2.9039E-01
M+	1.3794E-07
M2	5.3805E-01

P1 = 5.00E+04 N/50-M, US1= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9386E+02	1.2924E+03	2.1174E+03
T	1.8145E+01	2.7507E+01	3.4255E+01
RHO	8.7655E+00	3.2877E+01	3.9638E+01
M	3.4305E+01	5.8939E+01	7.5952E+01
A	4.3893E+00	6.1264E+00	7.3653E+00
S	1.4749E+00	1.5390E+00	1.6314E+00
Z	1.2186E+00	1.4291E+00	1.5608E+00
GAME	8.7074E-01	9.5480E-01	1.0149E+00
U	1.0922E+00	2.9122E+00	3.1049E+00

SPECIES	M-XE FRACTIONS
E-	4.0333E-07
ME	1.6412E-01
ME+	2.1439E-16
ME++	2.2566E-39
M	3.5877E-01
M+	4.2333E-07
M2	4.7711E-01

$$p_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 M/SQ-H, US1 = 1.00E+04 M/SEC			
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	3.1276E+02	2.1014E+03	2.5153E+03
T	2.3190E+01	4.1509E+01	3.9397E+01
RHC	9.3047E+00	3.5078E+01	3.9023E+01
M	5.6517E+01	9.3528E+01	8.7494E+01
A	5.5634E+03	8.6120E+03	8.2223E+03
R	1.6263E+00	1.6931E+00	1.6465E+00
Z	1.4455E+00	1.6832E+00	1.6361E+00
GAME	9.2081E-01	1.3615E+00	1.0488E+00
U	1.3535E+01	4.3086E+00	3.5047E+00
SPECIES			
E-	1.3024E-05	1.7232E-03	1.0314E-03
ME	.3759E-01	1.1952E-01	1.2224E-01
ME+	5.6861E-13	1.7013E-07	6.2919E-09
ME++	1.5511E-46	5.1936E-26	1.5431E-27
M	6.2013E-01	8.3664E-01	7.7446E-01
M+	1.3024E-05	1.7232E-03	1.0314E-03
M2	2.4106E-01	7.1130E-02	1.0123E-01

P1 = 5.00E+04 M/SQ-H, US1 = 1.60E+04 M/SEC			
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	1.5354E+02	1.0524E+03	2.5153E+03
T	1.9304E+01	3.0288E+01	3.9397E+01
RHC	9.0112E+00	1.3530E+01	3.9023E+01
M	3.8922E+01	6.7025E+01	8.7494E+01
A	4.6404E+00	6.6860E+00	8.2223E+03
R	1.5125E+00	1.5797E+00	1.6465E+00
Z	1.2710E+00	1.5025E+00	1.6361E+00
GAME	8.5013E-01	9.6233E-01	1.0488E+00
U	1.1690E+01	3.1820E+00	3.5047E+00
SPECIES			
E-	1.0566E-06	1.2102E-04	1.0314E-03
ME	1.5728E-01	1.3311E-01	1.2224E-01
ME+	1.8531E-15	3.5514E-10	6.2919E-09
ME++	2.5931E-56	6.6773E-36	1.5431E-27
M	4.2710E-01	6.6549E-01	7.7446E-01
M+	1.0566E-06	1.2102E-04	1.0314E-03
M2	4.1553E-01	1.9315E-01	1.0123E-01

P1 = 5.00E+04 N/50-M, US1 = 1.70E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5018E+02	1.7147E+03	2.9403E+03
T	2.0512E+01	3.3492E+01	4.5724E+01
RHO	9.1827E+00	3.2568E+01	3.7932E+01
M	4.3930E+01	7.5519E+01	1.0023E+02
A	4.9283E+03	7.3008E+00	9.0893E+00
S	1.5505E+00	1.6194E+03	1.6991E+00
Z	1.3283E+00	1.5720E+03	1.6953E+00
GAME	8.9134E+01	1.0124E+00	1.0499E+00
U	1.2449E+01	3.5082E+00	3.9741E+00

SPECIES	MOLE FRACTIONS
E-	2.5560E-06
HE	1.5057E-01
ME+	1.3731E-14
ME++	1.2878E-12
H	4.9428E-01
H+	2.5660E-06
H2	3.5515E-01

P1 = 5.00E+04 N/50-M, US1 = 1.50E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8072E+02	1.9153E+03	3.3789E+03
T	2.1794E+01	3.7213E+01	5.2861E+01
RHO	9.2809E+00	3.1517E+01	3.6767E+01
M	4.9029E+01	9.4368E+01	1.1393E+02
A	5.2313E+00	7.9541E+00	6.8620E+00
S	1.5985E+00	1.6572E+00	1.7293E+00
Z	1.3879E+00	1.6337E+00	1.7385E+00
GAME	9.0476E+01	1.6411E+00	1.0593E+00
U	1.7168E+01	3.9851E+00	4.4534E+00

SPECIES	MOLE FRACTIONS
E-	5.8606E-06
HE	1.4411E-01
ME+	5.0552E-14
ME++	1.0963E-12
H	5.5803E-01
H+	5.0000E-06
H2	2.9000E-01

P1 = 5.00E+04 N/50-M, US1 = 2.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4621E+02	2.2705E+03	4.2211E+03
T	2.4751E+01	4.6302E+01	6.6954E+01
RHO	9.2531E+00	2.8482E+01	3.4955E+01
M	6.6290E+01	1.5299E+02	1.4239E+02
A	5.9315E+00	5.2225E+03	1.1092E+01
S	1.6638E+00	1.7269E+00	1.7973E+00
Z	1.5117E+00	1.7217E+00	1.8636E+00
GAME	9.4032E+01	1.0669E+00	1.0190E+00
U	1.4659E+01	4.7595E+00	5.2771E+00

SPECIES	MOLE FRACTIONS
E-	2.8971E-05
HE	1.3230E-01
ME+	3.4995E-12
ME++	1.3911E-43
H	6.7690E-01
H+	2.9571E-05
H2	1.9074E-01

P1 = 5.00E+04 N/50-M, US1 = 2.10E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.8094E+02	2.4201E+03	4.5927E+03
T	2.6547E+01	5.1366E+01	7.3237E+01
RHO	9.1244E+00	2.6903E+01	3.4191E+01
M	6.6344E+01	1.1275E+02	1.5731E+02
A	6.3451E+00	9.7559E+03	1.1609E+01
S	1.7005E+00	1.7589E+00	1.8277E+00
Z	1.5727E+00	1.7515E+00	1.9341E+00
GAME	9.6432E+01	1.0579E+00	1.0032E+00
U	1.5364E+01	5.2153E+00	5.5994E+00

SPECIES	MOLE FRACTIONS
E-	6.3019E-05
HE	1.2717E-01
ME+	2.2165E-11
ME++	1.1933E-24
H	7.2915E-01
H+	6.3079E-05
H2	1.4456E-01

Table II. - Continued

$$P_1 = 50 \text{ kN/m}^2$$

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR															
P1 = 5.00E+04 N/50-M, US1 = 2.22E+04 M/SEC								P1 = 5.00E+04 N/50-M, US1 = 2.50E+04 M/SEC							
MOVING SHOCK				STANDING SHOCK				MOVING SHOCK				STANDING SHOCK			
P	4.169E+02	2.5507E+03	4.9152E+03	P	5.2964E+02	2.8725E+03	5.5282E+03	P	5.2964E+02	2.8725E+03	5.5282E+03	P	5.2964E+02	2.8725E+03	5.5282E+03
T	2.867E+01	5.6505E+01	3.9173E+01	T	3.8184E+01	7.0922E+01	9.3739E+01	T	3.8184E+01	7.0922E+01	9.3739E+01	T	3.8184E+01	7.0922E+01	9.3739E+01
RHC	9.5162E+03	2.5467E+01	3.3257E+01	RHC	7.6485E+00	2.1931E+01	2.9977E+01	RHC	7.6485E+00	2.1931E+01	2.9977E+01	RHC	7.6485E+00	2.1931E+01	2.9977E+01
H	7.2677E+01	1.2290E+02	1.7186E+02	H	9.3252E+03	1.5549E+02	2.1654E+02	H	9.3252E+03	1.5549E+02	2.1654E+02	H	9.3252E+03	1.5549E+02	2.1654E+02
M	6.8151E+00	1.2224E+02	1.2099E+01	M	8.4570E+00	1.1417E+01	1.3345E+01	M	8.4570E+00	1.1417E+01	1.3345E+01	M	8.4570E+00	1.1417E+01	1.3345E+01
A	1.7361E+00	1.7894E+00	1.8584E+00	A	1.8325E+00	1.8754E+00	1.9442E+00	A	1.8325E+00	1.8754E+00	1.9442E+00	A	1.8325E+00	1.8754E+00	1.9442E+00
S	1.6324E+00	1.7767E+00	1.9667E+00	S	1.7496E+00	1.8494E+00	1.9673E+00	S	1.7496E+00	1.8494E+00	1.9673E+00	S	1.7496E+00	1.8494E+00	1.9673E+00
Z	9.9357E+01	1.3412E+00	9.9056E+01	Z	1.0733E+00	9.9527E+01	9.6574E+01	Z	1.0733E+00	9.9527E+01	9.6574E+01	Z	1.0733E+00	9.9527E+01	9.6574E+01
GAME	1.6352E+01	5.6173E+00	5.9824E+00	GAME	1.7959E+01	6.5043E+00	6.6759E+00	GAME	1.7959E+01	6.5043E+00	6.6759E+00	GAME	1.7959E+01	6.5043E+00	6.6759E+00
U				U				U				U			
SPECIES				MOLE FRACTIONS				SPECIES				MOLE FRACTIONS			
E-	1.4224E-04	1.2472E-02	5.0073E-02	E-	1.7970E-03	3.9039E-02	9.3486E-02	E-	1.7970E-03	3.9039E-02	9.3486E-02	E-	1.7970E-03	3.9039E-02	9.3486E-02
HE	1.2276E-01	1.1255E-01	1.0653E-01	HE	1.1431E-01	1.0790E-01	2.6148E-03	HE	1.1431E-01	1.0790E-01	2.6148E-03	HE	1.1431E-01	1.0790E-01	2.6148E-03
HE+	1.5073E-13	1.7293E-13	6.0803E-04	HE+	6.4028E-08	2.4874E-04	7.9614E-11	HE+	6.4028E-08	2.4874E-04	7.9614E-11	HE+	6.4028E-08	2.4874E-04	7.9614E-11
HE++	1.5202E-37	5.0143E-19	4.0872E-13	HE++	4.2593E-29	1.2087E-14	7.0554E-01	HE++	4.2593E-29	1.2087E-14	7.0554E-01	HE++	4.2593E-29	1.2087E-14	7.0554E-01
H	7.7257E-01	8.3652E-01	7.7858E-01	H	8.5151E-01	8.3169E-01	9.0872E-02	H	8.5151E-01	8.3169E-01	9.0872E-02	H	8.5151E-01	8.3169E-01	9.0872E-02
H+	1.4224E-04	1.2472E-02	5.0073E-02	H+	1.7970E-03	3.9039E-02	9.3486E-02	H+	1.7970E-03	3.9039E-02	9.3486E-02	H+	1.7970E-03	3.9039E-02	9.3486E-02
H2	1.0444E-01	7.5588E-02	1.4341E-02	H2	3.0550E-02	1.2336E-02	8.4399E-03	H2	3.0550E-02	1.2336E-02	8.4399E-03	H2	3.0550E-02	1.2336E-02	8.4399E-03

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

P1 = 5.00E+04 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.639E+02	2.977E+03	5.695E+03
T	4.212E+01	7.519E+01	9.796E+01
RHO	7.634E+00	2.110E+01	2.905E+01
M	1.006E+02	1.672E+02	2.319E+02
A	8.930E+00	1.178E+01	1.372E+01
S	1.860E+00	1.902E+00	1.971E+00
Z	1.770E+00	1.876E+00	2.002E+00
GAME	1.653E+00	9.850E-01	9.600E-01
U	1.856E+01	6.709E+00	6.637E+00

SPECIES	MOLE FRACTIONS
E-	3.814E-03
HE	1.129E-01
HE+	3.906E-07
ME+	4.291E-25
H	8.503E-01
M+	3.814E-03
M2	2.039E-02

P1 = 5.00E+04 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.108E+02	3.104E+03	5.883E+03
T	4.629E+01	7.944E+01	1.021E+02
RHO	7.384E+00	2.051E+01	2.824E+01
M	1.083E+02	1.794E+02	2.479E+02
A	9.325E+00	1.215E+01	1.410E+01
S	1.886E+00	1.928E+00	1.998E+00
Z	1.787E+00	1.904E+00	2.038E+00
GAME	1.051E+00	9.769E-01	9.550E-01
U	1.918E+01	6.998E+00	6.791E+00

SPECIES	MOLE FRACTIONS
E-	7.239E-03
HE	1.118E-01
HE+	1.827E-06
ME+	1.116E-22
H	8.593E-01
M+	7.237E-03
M2	1.430E-02

P1 = 5.00E+04 N/SQ-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.536E+02	2.674E+03	5.172E+03
T	3.126E+01	6.150E+01	8.442E+01
RHO	8.634E+00	2.415E+01	3.226E+01
M	7.927E+01	1.334E+02	1.866E+02
A	7.344E+00	1.644E+01	1.254E+01
S	1.776E+00	1.818E+00	1.873E+00
Z	1.652E+00	1.894E+00	1.992E+00
GAME	1.026E+00	9.877E-01	9.877E-01
U	1.671E+01	5.970E+00	6.109E+00

SPECIES	MOLE FRACTIONS
E-	3.306E-04
HE	1.190E-01
HE+	1.116E-09
ME+	2.424E-34
H	8.586E-01
M+	3.307E-04
M2	7.164E-02

P1 = 5.00E+04 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.911E+02	2.774E+03	5.368E+03
T	3.443E+01	6.627E+01	8.925E+01
RHO	8.297E+00	2.298E+01	3.111E+01
M	9.613E+01	1.442E+02	2.015E+02
A	7.913E+00	1.104E+01	1.293E+01
S	1.802E+00	1.847E+00	1.916E+00
Z	1.723E+00	1.824E+00	1.932E+00
GAME	1.057E+00	1.000E+00	9.726E-01
U	1.734E+01	6.263E+00	6.306E+00

SPECIES	MOLE FRACTIONS
E-	7.819E-04
HE	1.162E-01
HE+	8.691E-09
ME+	4.223E-31
H	8.397E-01
M+	7.813E-04
M2	4.711E-02

P1 = 5.00E+04 N/SQ-M, US1= 2.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.5428E+02	3.2594E+03	6.1298E+03
T	5.0371E+01	8.3636E+01	1.0644E+02
RMC	7.2043E+00	2.0151E+01	2.7741E+01
M	1.1632E+02	1.9240E+02	2.6469E+02
H	5.6677E+00	1.2528E+01	1.4495E+01
S	1.9109E+00	1.9530E+00	2.0242E+00
Z	1.8030E+00	1.9340E+00	2.0757E+00
GAME	1.0291E+00	9.7034E-01	9.5104E-01
U	1.9815E+01	7.0800E+00	6.9471E+00

P1 = 5.00E+04 N/SQ-M, US1= 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4941E+02	4.1552E+03	7.6153E+03
T	6.5015E+01	1.0064E+02	1.2601E+02
RMC	6.9575E+00	2.3097E+01	2.7499E+01
M	1.5141E+02	2.5054E+02	3.4027E+02
A	1.0803E+01	1.4032E+01	1.6183E+01
S	1.9990E+00	2.0455E+00	2.1224E+00
Z	1.9778E+00	2.0663E+00	2.2331E+00
GAME	5.7005E-01	9.2227E-01	9.4561E-01
U	2.2517E+01	7.7912E+00	7.8222E+00

P1 = 5.00E+04 N/SQ-M, US1= 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4941E+02	4.1552E+03	7.6153E+03
T	6.5015E+01	1.0064E+02	1.2601E+02
RMC	6.9575E+00	2.3097E+01	2.7499E+01
M	1.5141E+02	2.5054E+02	3.4027E+02
A	1.0803E+01	1.4032E+01	1.6183E+01
S	1.9990E+00	2.0455E+00	2.1224E+00
Z	1.9778E+00	2.0663E+00	2.2331E+00
GAME	5.7005E-01	9.2227E-01	9.4561E-01
U	2.2517E+01	7.7912E+00	7.8222E+00

P1 = 5.00E+04 N/SQ-M, US1= 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4941E+02	4.1552E+03	7.6153E+03
T	6.5015E+01	1.0064E+02	1.2601E+02
RMC	6.9575E+00	2.3097E+01	2.7499E+01
M	1.5141E+02	2.5054E+02	3.4027E+02
A	1.0803E+01	1.4032E+01	1.6183E+01
S	1.9990E+00	2.0455E+00	2.1224E+00
Z	1.9778E+00	2.0663E+00	2.2331E+00
GAME	5.7005E-01	9.2227E-01	9.4561E-01
U	2.2517E+01	7.7912E+00	7.8222E+00

P1 = 5.00E+04 N/SQ-M, US1= 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4941E+02	4.1552E+03	7.6153E+03
T	6.5015E+01	1.0064E+02	1.2601E+02
RMC	6.9575E+00	2.3097E+01	2.7499E+01
M	1.5141E+02	2.5054E+02	3.4027E+02
A	1.0803E+01	1.4032E+01	1.6183E+01
S	1.9990E+00	2.0455E+00	2.1224E+00
Z	1.9778E+00	2.0663E+00	2.2331E+00
GAME	5.7005E-01	9.2227E-01	9.4561E-01
U	2.2517E+01	7.7912E+00	7.8222E+00

P1 = 5.00E+04 N/SQ-M, US1= 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4941E+02	4.1552E+03	7.6153E+03
T	6.5015E+01	1.0064E+02	1.2601E+02
RMC	6.9575E+00	2.3097E+01	2.7499E+01
M	1.5141E+02	2.5054E+02	3.4027E+02
A	1.0803E+01	1.4032E+01	1.6183E+01
S	1.9990E+00	2.0455E+00	2.1224E+00
Z	1.9778E+00	2.0663E+00	2.2331E+00
GAME	5.7005E-01	9.2227E-01	9.4561E-01
U	2.2517E+01	7.7912E+00	7.8222E+00

P1 = 5.00E+04 N/SQ-M, US1= 3.20E+04 M/SEC			
	MOVING SHOCK		

P1 = 5.00E+04 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.9987E+02	3.4441E+03	6.4312E+03
T	5.4302E+01	8.7786E+01	1.1076E+02
RHO	7.0843E+00	1.9963E+01	2.7464E+01
M	1.2462E+02	2.0596E+02	2.8239E+02
A	9.9834E+03	1.2901E+01	1.4899E+01
S	1.9340E+00	1.9770E+00	2.0497E+00
Z	1.9193E+00	1.9653E+00	2.1142E+00
GAME	1.0089E+00	9.6479E-01	9.4796E-01
U	2.0467E+01	7.2590E+00	7.1184E+00

SPECIES	MOLE FRACTIONS
E-	1.8875E-02
ME	1.0991E-01
ME+	1.8650E-05
HE+	4.6979E-19
H	8.4407E-01
H+	1.8857E-02
H2	8.2655E-03
	9.0438E-02
	9.9995E-02
	1.8826E-03
	1.7568E-11
	7.1289E-01
	8.8555E-02
	6.3514E-03
	1.5343E-01
	8.6469E-02
	8.1298E-03
	6.1853E-09
	6.4186E-01
	1.4530E-01
	4.8171E-03

P1 = 5.00E+04 N/SQ-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.4757E+02	3.6543E+03	6.7749E+03
T	5.8077E+01	9.1900E+01	1.1505E+02
RHO	7.0061E+03	1.9903E+01	2.7556E+02
M	1.3323E+02	2.2017E+02	3.0072E+02
A	1.0290E+01	1.3277E+01	1.5306E+01
S	1.9565E+00	2.0004E+00	2.0741E+00
Z	1.8373E+00	1.9979E+00	2.1526E+00
GAME	9.9224E-01	9.6002E-01	9.4000E-01
U	2.1135E+01	7.4356E+00	7.2714E+00

SPECIES	MOLE FRACTIONS
E-	2.4958E-02
ME	1.0801E-01
ME+	4.4676E-04
HE+	1.0826E-17
H	8.3060E-01
H+	2.6914E-02
H2	6.6655E-03
	1.0462E-01
	9.7397E-02
	2.7086E-03
	6.7535E-11
	6.9778E-01
	1.0192E-01
	5.5733E-03
	1.5810E-01
	8.2944
	9.9657E-03
	1.4663E-08
	5.7457E-01
	1.5813E-01
	4.2439E-03

P1 = 5.00E+04 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.5921E+02	4.7357E+03	8.6016E+03
T	7.1427E+01	1.0416E+02	1.3337E+02
RHO	6.9767E+00	2.0476E+01	2.7941E+01
M	1.7091E+02	2.9330E+02	3.9317E+02
A	1.1473E+01	1.4798E+01	1.7137E+01
S	4.0397E+00	2.0497E+00	2.1699E+00
Z	1.5245E+00	2.1382E+00	2.3164E+00
GAME	9.5735E-01	9.4699E-01	9.5049E-01
U	2.3935E+01	9.1527E+00	8.0037E+00

SPECIES	MOLE FRACTIONS
E-	6.8474E-02
ME	1.0344E-01
ME+	4.6624E-04
HE+	5.0848E-14
H	7.5612E-01
H+	6.7568E-02
H2	3.5699E-03
	1.6175E-01
	8.5444E-02
	4.0449E-03
	4.7101E-09
	5.9744E-01
	1.5371E-01
	3.5642E-03
	2.2574E-01
	6.8149E-02
	1.8145E-02
	2.7954E-07
	4.7758E-01
	2.0763E-01
	2.7490E-03

P1 = 5.00E+04 N/SQ-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0767E+03	5.4499E+03	9.7209E+03
T	7.7440E+01	1.1624E+02	1.4333E+02
RHO	7.0322E+00	2.0954E+01	2.9211E+01
M	1.9144E+02	3.1834E+02	4.2948E+02
A	1.2660E+01	1.4596E+01	1.7192E+01
S	2.0755E+00	2.1331E+00	2.2170E+00
Z	1.9771E+00	2.2125E+00	2.4041E+00
GAME	9.4956E-01	9.4455E-01	9.6045E-01
U	2.5377E+01	9.5136E+00	8.4267E+00

SPECIES	MOLE FRACTIONS
E-	9.2374E-02
ME	1.0013E-01
ME+	1.5233E-03
HE+	8.8664E-13
H	7.1232E-01
H+	9.1350E-02
H2	2.7940E-03
	1.6935E-01
	7.8702E-02
	1.1695E-02
	2.3792E-08
	5.3968E-01
	1.7765E-01
	2.3149E-01
	2.1893E-03

Table II. - Continued

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 3.90E+04 M/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 4.43E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P				P			
T				T			
RHC				RHC			
M				M			
A				A			
S				S			
Z				Z			
GAME				GAME			
U				U			
1.2015E+03	6.1029E+03	1.0962E+04	1.0962E+04	1.6192E+03	8.5339E+03	1.5396E+04	1.5396E+04
8.3166E+01	1.2439E+02	1.5402E+02	1.5402E+02	9.9326E+01	1.5023E+02	1.9202E+02	1.9202E+02
7.1049E+03	2.1439E+01	2.9525E+01	2.9525E+01	7.3433E+00	2.2475E+01	2.8835E+01	2.8835E+01
2.1328E+02	3.5564E+02	4.7928E+02	4.7928E+02	2.8597E+02	4.7957E+02	6.5387E+02	6.5387E+02
1.2644E+01	1.6410E+01	1.9392E+01	1.9392E+01	1.4383E+01	1.9215E+01	2.3406E+01	2.3406E+01
2.1196E+00	2.1759E+00	2.2639E+00	2.2639E+00	2.2337E+00	2.3017E+00	2.4018E+00	2.4018E+00
2.0335E+00	2.2986E+00	2.4931E+00	2.4931E+00	2.2198E+00	2.5273E+00	2.7845E+00	2.7845E+00
9.4533E-01	9.4597E-01	9.7452E-01	9.7452E-01	9.3822E-01	9.7244E-01	1.0260E+00	1.0260E+00
2.6832E+01	8.8803E+00	8.8699E+00	8.8699E+00	3.1234E+01	1.0196E+01	1.0681E+01	1.0681E+01
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.1707E-01	2.1590E-01	2.8030E-01	E-	1.9034E-01	2.8909E-01	3.5342E-01
HE	9.6419E-02	7.1776E-02	5.4923E-02	HE	8.2737E-02	5.3094E-02	4.0643E-02
HE+	1.9340E-03	1.5612E-02	2.5232E-02	HE+	7.3924E-03	2.6038E-02	3.1226E-02
HE++	9.2173E-12	9.5325E-08	2.9218E-06	HE++	1.5367E-09	2.5006E-06	5.2753E-05
M	6.6120E-01	4.9402E-01	3.8277E-01	M	5.3538E-01	3.6747E-01	2.5185E-01
M+	1.1514E-01	2.0029E-01	2.5506E-01	M+	1.8255E-01	2.6303E-01	3.2209E-01
M2	2.2430E-03	2.4316E-03	1.7169E-03	M2	1.2349E-03	1.2886E-03	7.2110E-04

P1 = 5.00E+04 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3337E+01	6.8697E+03	1.2322E+04
T	6.8691E+01	1.3270E+02	1.6561E+02
RHO	7.1837E+00	2.1874E+01	2.8738E+01
M	2.3632E+02	3.9499E+02	5.3269E+02
A	1.3225E+01	1.7285E+01	2.0615E+01
S	2.1573E+00	2.2193E+03	2.3105E+00
Z	2.0933E+00	2.3666E+00	2.5808E+00
GAME	9.4214E-01	9.5136E-01	9.9116E-01
U	2.8296E+01	9.2891E+00	9.4298E+00

SPECIES	MOLE FRACTIONS
E-	1.4192E-01
PE	9.2269E-02
ME+	3.2759E-03
ME++	6.5914E-11
M	6.2207E-01
H+	1.3865E-01
H2	1.9232E-03
E-	2.4134E-01
PE	6.5039E-02
ME+	1.9470E-02
ME++	3.2049E-07
M	4.5022E-01
H+	2.2191E-01
H2	1.9706E-03
E-	3.0607E-01
PE	4.9431E-02
ME+	2.7910E-02
ME++	8.1765E-06
M	3.3711E-01
H+	2.7829E-01
H2	1.3184E-03

P1 = 5.00E+04 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4729E+03	7.6516E+03	1.3902E+04
T	9.4056E+01	1.4128E+02	1.7826E+02
RHO	7.2651E+00	2.2277E+01	2.9832E+01
M	2.6055E+02	4.3631E+02	5.8900E+02
A	1.3933E+01	1.8219E+01	2.1974E+01
S	2.1956E+00	2.2602E+00	2.3566E+00
Z	2.1555E+00	2.4162E+00	2.6851E+00
GAME	9.3982E-01	9.433E-01	1.0088E+00
U	2.9763E+01	6.7232E+00	1.0020E+01

SPECIES	MOLE FRACTIONS
E-	1.6641E-01
PE	8.7696E-02
ME+	5.0917E-03
ME++	3.5476E-10
M	5.7799E-01
H+	1.8004E-01
H2	1.4964E-03
E-	2.6577E-01
PE	5.8760E-02
ME+	2.2999E-02
ME++	9.4202E-07
M	4.0810E-01
H+	2.4277E-01
H2	1.6037E-03
E-	3.3061E-01
PE	4.4698E-02
ME+	2.9767E-02
ME++	2.1407E-05
M	2.9311E-01
H+	3.0080E-01
H2	9.8635E-04

P1 = 5.00E+04 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7724E+03	9.4081E+03	1.7102E+04
T	1.0454E+02	1.5967E+02	2.0717E+02
RHO	7.4176E+00	2.2574E+01	2.8705E+01
M	3.1259E+02	5.2455E+02	7.1572E+02
A	1.4967E+01	2.0276E+01	2.4914E+01
S	2.2717E+00	2.3431E+00	2.4468E+00
Z	2.2857E+00	2.6102E+00	2.8759E+00
GAME	9.3751E-01	9.8644E-01	1.0419E+00
U	3.2705E+01	1.0739E+01	1.1395E+01

SPECIES	MOLE FRACTIONS
E-	2.1351E-01
PE	7.7365E-02
ME+	1.0136E-02
ME++	5.6150E-09
M	4.9458E-01
H+	2.0338E-01
H2	1.0224E-03
E-	3.1142E-01
PE	4.8062E-02
ME+	2.8554E-02
ME++	6.1473E-06
M	3.2809E-01
H+	2.8285E-01
H2	1.0156E-03
E-	3.7462E-01
PE	3.7033E-02
ME+	3.2386E-02
ME++	1.2480E-04
M	2.1335E-01
H+	3.4198E-01
H2	5.1146E-04

P1 = 5.00E+04 N/SQ-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9324E+03	1.0310E+04	1.8919E+04
T	1.0973E+02	1.6953E+02	2.2363E+02
RHO	7.4841E+00	2.2549E+01	2.8516E+01
M	3.4038E+02	5.7135E+02	7.8458E+02
A	1.5562E+01	2.1377E+01	2.6457E+01
S	2.3056E+00	2.3831E+00	2.4905E+00
Z	2.3529E+00	2.6923E+00	2.8667E+00
GAME	9.3755E-01	1.0312E+00	1.0550E+00
U	3.4174E+01	1.1315E+01	1.2173E+01

SPECIES	MOLE FRACTIONS
E-	2.3585E-01
PE	7.1760E-02
ME+	1.3240E-02
ME++	1.7830E-09
M	4.5570E-01
H+	2.9104E-01
H2	3.0166E-01
E-	3.3222E-01
PE	4.3739E-02
ME+	3.3532E-02
ME++	1.4055E-05
M	2.9104E-01
H+	3.0166E-01
H2	7.5987E-04
E-	3.9362E-01
PE	3.3778E-02
ME+	3.3356E-02
ME++	2.8090E-04
M	1.7990E-01
H+	3.5970E-01
H2	3.5581E-04

Table II. - Continued

 $P_1 = 50 \text{ kN/m}^2$

P1 = 5.60E+04 N/SQ-M, US1 = 5.00E+04 M/SEC					P1 = 5.60E+04 N/SQ-M, US1 = 5.60E+04 M/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	

E-	2.5731E-01	3.5155E-01	4.1352E-01	4.0304E-02	3.0690E-02	2.6381E+03	1.3979E+04	2.6940E+04	
HE	6.6011E-02	4.0304E-02	3.0690E-02	3.0690E-02	3.0690E-02	1.3124E+02	2.1669E+02	3.0169E+02	
HE+	1.6588E-02	3.2083E-02	3.4232E-02	3.4232E-02	3.4232E-02	7.6389E+00	2.1677E+01	2.7339E+01	
HE++	5.0599E-08	3.0371E-05	6.0327E-04	6.0327E-04	6.0327E-04	4.6327E+02	7.7447E+02	1.0943E+03	
H	4.1847E-01	2.5632E-01	1.4863E-01	1.4863E-01	1.4863E-01	1.8167E+01	2.6075E+01	3.2399E+01	
H+	2.4072E-01	3.1941E-01	3.7508E-01	3.7508E-01	3.7508E-01	2.4593E+00	2.5355E+00	2.634E+00	
H2	7.0109E-34	6.6480E-04	2.4269E-04	2.4269E-04	2.4269E-04	2.6315E+00	3.0038E+00	3.2663E+00	
P						2.615E+00	3.0038E+00	3.2663E+00	
T						9.5566E-01	1.0543E+00	1.0653E+00	
RHO						3.9994E+01	1.4088E+01	1.5515E+01	
M									
A									
S									
Z									
GAME									
U									

P1 = 5.00E+04 N/SQ-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2725E+03	1.2153E+04	2.2799E+04
T	1.2025E+02	1.9084E+02	2.6041E+02
RHO	7.5874E+00	2.2315E+01	2.7972E+01
H	3.9945E+02	6.6933E+02	9.3249E+02
A	1.6809E+01	2.3688E+01	2.9519E+01
S	2.3849E+00	2.4604E+00	2.3741E+00
Z	2.4907E+00	2.9531E+00	3.1299E+00
GAME	9.4333E-01	1.0301E+00	1.0691E+00
U	3.7099E+01	1.2603E+01	1.3791E+01

SPECIES	MOLE FRACTIONS
E-	2.7789E-01
HE	6.0251E-02
ME+	2.0047E-02
HE++	1.3110E-07
H	3.8338E-01
H+	2.5795E-01
H2	5.7795E-04

P1 = 5.00E+04 N/SQ-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4521E+03	1.3067E+04	2.4841E+04
T	1.2567E+02	2.0245E+02	2.8063E+02
RHO	7.6153E+00	2.2326E+01	2.7649E+01
H	4.3083E+02	7.2142E+02	1.2117E+03
A	1.7473E+01	2.6875E+01	3.3984E+01
S	2.4223E+00	2.4986E+00	2.8144E+00
Z	2.5610E+00	2.9333E+00	3.2015E+00
GAME	9.4861E-01	1.0431E+00	1.0688E+00
U	3.8550E+01	1.3331E+01	1.4645E+01

SPECIES	MOLE FRACTIONS
E-	2.5751E-01
HE	5.4410E-02
ME+	2.3486E-02
HE++	3.1559E-07
H	3.4970E-01
H+	2.7412E-01
H2	4.7346E-04

P1 = 5.00E+04 N/SQ-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8296E+03	1.4864E+04	2.8993E+04
T	1.3709E+02	2.2752E+02	3.2253E+02
RHO	7.6354E+00	2.1254E+01	2.7044E+01
H	4.9687E+02	8.2885E+02	1.1780E+03
A	1.8966E+01	2.7265E+01	3.3735E+01
S	2.4965E+00	2.5716E+00	2.6900E+00
Z	2.7033E+00	3.0730E+00	3.3233E+00
GAME	9.6449E-01	1.0632E+00	1.0617E+00
U	4.1419E+01	1.4863E+01	1.6310E+01

SPECIES	MOLE FRACTIONS
E-	3.3446E-01
HE	4.4138E-02
ME+	2.9844E-02
HE++	1.5505E-06
H	2.8644E-01
H+	3.0461E-01
H2	3.0874E-04

P1 = 5.00E+04 N/SQ-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0272E+03	1.5734E+04	3.1059E+04
T	1.4317E+02	2.4091E+02	3.4447E+02
RHO	7.6207E+00	2.0921E+01	2.6693E+01
H	5.3162E+02	8.8444E+02	1.2644E+03
A	1.9678E+01	2.8423E+01	3.5131E+01
S	2.5328E+00	2.6065E+00	2.7269E+00
Z	2.7745E+00	3.1368E+00	3.3779E+00
GAME	9.7479E-01	1.0693E+00	1.0637E+00
U	4.2835E+01	1.5670E+01	1.7093E+01

SPECIES	MOLE FRACTIONS
E-	3.5147E-01
HE	3.9495E-02
ME+	3.2588E-02
HE++	3.2238E-06
H	2.5732E-01
H+	3.1808E-01
H2	2.4502E-04

Table II. - Continued

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 6.20E+04 M/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 6.90E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RMC	H	P	T	RMC	H
3.229E+03	1.596E+02	7.582E+03	5.674E+02	3.869E+03	1.717E+02	7.381E+03	6.817E+02
1.6567E+04	2.548E+02	2.033E+01	9.417E+02	1.895E+04	2.994E+02	1.885E+01	1.120E+03
2.548E+02	2.033E+01	9.417E+02	2.954E+01	1.885E+01	1.120E+03	1.634E+03	3.263E+01
2.954E+01	2.640E+00	3.196E+00	1.071E+00	3.263E+01	4.124E+01	2.740E+00	2.862E+00
2.640E+00	3.196E+00	1.071E+00	1.647E+01	2.740E+00	2.862E+00	3.543E+00	1.092E+00
3.196E+00	1.071E+00	1.647E+01		3.543E+00	1.092E+00	2.024E+01	
1.647E+01				1.995E+01			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	3.677E-01	4.368E-01	4.746E-01	E-	4.103E-01	4.622E-01	4.935E-01
HE	3.524E-02	2.376E-02	1.229E-02	HE	2.514E-02	1.669E-02	5.340E-03
HE+	3.502E-02	3.742E-02	3.324E-02	HE+	4.033E-02	3.757E-02	2.664E-02
HE++	6.551E-06	1.390E-03	1.285E-02	HE++	4.842E-05	5.490E-03	2.428E-02
H	2.290E-01	1.037E-01	5.117E-02	H	1.540E-01	6.428E-02	3.178E-02
H+	3.327E-01	3.966E-01	4.157E-01	H+	3.699E-01	4.136E-01	4.183E-01
H2	1.908E-04	8.753E-05	2.740E-05	H2	8.129E-05	3.117E-05	1.028E-05

P1 = 5.00E+04 N/SQ-M, US1= 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0915E+03	1.9638E+04	4.0763E+04
T	1.8014E+02	3.1475E+02	4.6555E+02
RHC	7.2881E+00	1.9407E+01	2.4392E+01
M	7.2205E+02	1.1035E+03	1.7344E+03
A	2.4155E+01	3.3608E+01	4.2992E+01
S	2.7081E+00	2.7720E+00	2.8954E+00
Z	5.1161E+00	3.3896E+00	3.5897E+00
GAME	1.6393E+00	1.0587E+00	1.1060E+00
U	4.9629E+01	1.9634E+01	2.1126E+01

SPECIES	MOLE FRACTIONS
E-	4.2242E-01
HE	2.2533E-02
HE+	4.1559E-02
HE++	9.1754E-05
H	1.3267E-01
M+	3.8068E-01
M2	5.8879E-05

P1 = 5.00E+04 N/SQ-M, US1= 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4370E+03	1.7374E+04	3.5068E+04
T	1.5652E+02	2.6932E+02	3.8896E+02
RHC	7.5309E+00	1.9848E+01	2.5961E+01
M	6.0449E+02	1.0601E+03	1.4445E+03
A	2.1356E+01	3.0610E+01	3.8024E+01
S	2.4049E+00	2.6745E+00	2.7957E+00
Z	2.9166E+00	3.2501E+00	3.4728E+00
GAME	9.9915E-01	1.3704E+00	1.0703E+00
U	4.5609E+01	1.7293E+01	1.8659E+01

SPECIES	MOLE FRACTIONS
E-	3.8300E-01
HE	3.1458E-02
HE+	3.7161E-02
HE++	1.2973E-05
H	2.0242E-01
M+	3.4587E-01
M2	1.4631E-04

P1 = 5.00E+04 N/SQ-M, US1= 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6507E+03	1.8131E+04	3.6970E+04
T	1.6353E+02	2.8199E+02	4.1307E+02
RHC	7.4368E+00	1.9349E+01	2.5454E+01
M	6.4256E+02	1.0596E+03	1.5379E+03
A	2.2265E+01	3.1620E+01	3.9616E+01
S	2.6405E+00	2.7073E+00	2.8301E+00
Z	2.5961E+00	3.2997E+00	3.5162E+00
GAME	1.0126E+00	1.0669E+00	1.0806E+00
U	4.6965E+01	1.9109E+01	1.9433E+01

SPECIES	MOLE FRACTIONS
E-	3.9741E-01
HE	2.8058E-02
HE+	3.9983E-02
HE++	2.5434E-05
H	1.7763E-01
M+	3.5848E-01
M2	1.0960E-04

P1 = 1.00E+05 N/30-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9814E+01	5.2080E+01	1.1644E+02
T	4.4065E+00	5.9054E+00	8.1643E+00
RMU	4.4957E+00	8.8174E+00	1.4200E+01
M	4.5041E+00	6.2435E+00	8.9324E+00
A	2.0733E+00	2.3783E+00	2.7644E+00
S	1.1233E+00	1.1289E+00	1.1503E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
NAME	9.7554E-01	9.3781E-01	9.3537E-01
U	3.1952E+00	1.6275E+00	1.4747E+00

SPECIES ----- MOLE FRACTIONS -----

E-	9.1510E-19	1.0233E-24	6.8442E-17
HE	2.0000E-01	2.0000E-01	1.9944E-01
HE+	4.6888E-24	1.2910E-45	1.7274E-34
HE++	0.	0.	0.
H	1.6067E-07	1.8080E-05	8.2944E-04
H+	7.4402E-20	7.2402E-20	6.9004E-17
H2	8.0000E-01	7.9998E-01	7.9942E-01

P1 = 1.00E+05 N/30-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8751E+01	8.8143E+01	1.8244E+02
T	3.8463E+00	8.1337E+00	1.0702E+01
RMU	4.9170E+00	1.0832E+01	1.6627E+01
M	4.1704E+00	8.8976E+00	1.2432E+01
A	4.3671E+00	2.7582E+00	3.1344E+00
S	1.1632E+00	1.1725E+00	1.2040E+00
Z	1.0000E+00	1.0005E+00	1.0035E+00
NAME	9.2823E-01	9.3492E-01	9.0404E-01
U	3.9264E+00	1.7826E+00	1.6224E+00

SPECIES ----- MOLE FRACTIONS -----

E-	4.4951E-24	1.2117E-16	1.3432E-14
HE	2.0000E-01	1.9991E-01	1.9898E-01
HE+	1.3090E-26	4.1716E-35	3.6048E-27
HE++	0.	0.	0.
H	1.9913E-05	9.1458E-04	1.0194E-02
H+	7.4397E-20	1.2124E-16	1.3935E-14
H2	7.9998E-01	7.9910E-01	7.9862E-01

P1 = 1.00E+05 N/30-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1922E+01	2.0131E+02	3.6657E+02
T	9.1907E+00	1.2874E+01	1.5500E+01
RMU	2.0531E+00	1.5337E+01	2.2422E+01
M	1.0690E+00	1.5915E+01	2.1144E+01
A	4.9000E+00	3.3999E+00	3.7810E+00
S	1.4370E+00	1.2554E+00	1.2790E+00
Z	1.0000E+00	1.0194E+00	1.0352E+00
NAME	9.1639E-01	8.8054E-01	8.7214E-01
U	3.4607E+00	1.9843E+00	1.8184E+00

SPECIES ----- MOLE FRACTIONS -----

E-	4.1042E-24	1.6747E-10	8.0324E-09
HE	1.9944E-01	1.9616E-01	1.9492E-01
HE+	4.0425E-31	6.2181E-23	3.7100E-19
HE++	0.	7.9993E-04	1.3490E-04
H	4.9391E-02	3.8443E-02	9.2740E-02
H+	4.8042E-14	1.6747E-10	8.0324E-09
H2	7.9942E-01	7.6540E-01	7.1303E-01

P1 = 1.00E+05 N/30-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.6509E+01	2.8044E+02	4.9744E+02
T	1.4007E+01	1.5079E+01	1.7832E+01
RMU	6.0302E+00	1.8117E+01	2.5504E+01
M	1.4813E+00	2.0334E+01	2.6304E+01
A	3.1274E+00	3.7125E+00	4.1379E+00
S	1.4274E+00	1.2944E+00	1.3344E+00
Z	1.0000E+00	1.0471E+00	1.0924E+00
NAME	8.8714E-01	8.7255E-01	8.7574E-01
U	8.1730E+00	2.0550E+00	1.9092E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.9319E-24	4.9460E-09	9.2609E-08
HE	1.9898E-01	1.9101E-01	1.8214E-01
HE+	3.9990E-27	9.8626E-20	7.7083E-17
HE++	0.	4.4451E-11	9.5001E-04
H	1.4813E-02	8.9895E-02	1.8825E-01
H+	3.9319E-24	4.9460E-09	9.2609E-08
H2	7.9942E-01	7.1904E-01	6.4634E-01

Table II. - Continued

$$P_1 = 100 \text{ kN/m}^2$$

$P_1 = 1.00E+03 \text{ N/CM}^2$ $US1 = 1.00E+04 \text{ M/SEC}$				$P_1 = 1.00E+03 \text{ N/CM}^2$ $US1 = 1.30E+04 \text{ M/SEC}$			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLF FRACTIONS				MOLF FRACTIONS			
-----				-----			
C-	1.500E-10	5.733E-08	6.305E-07	C-	5.040E-06	6.336E-06	4.409E-05
HE	1.955E-01	1.841E-01	1.745E-01	HE	1.795E-01	1.546E-01	1.479E-01
HE+	1.295E-23	2.161E-17	5.690E-15	HE+	5.275E-18	8.742E-13	8.100E-11
HE++	1.339E-04	1.418E-62	8.262E-54	HE++	2.073E-03	1.3957E-03	3.600E-38
H	4.095E-02	1.583E-01	2.555E-01	H	2.009E-01	4.035E-01	5.254E-01
H+	1.300E-10	5.733E-08	6.305E-07	H+	5.040E-06	6.336E-06	4.409E-05
H2	7.577E-01	6.575E-01	5.714E-01	H2	6.194E-01	4.368E-01	3.265E-01
-----				-----			
P	0.200E+01	3.942E+02	6.642E+02	P	1.430E+02	4.489E+02	1.390E+03
T	1.240E+01	1.722E+01	2.019E+01	T	1.000E+01	2.389E+01	2.865E+01
AMJ	6.496E+00	2.107E+01	2.871E+01	AMJ	7.027E+00	2.835E+01	3.570E+01
M	1.504E+01	2.536E+01	3.265E+01	M	4.253E+01	4.375E+01	5.607E+01
A	3.539E+00	4.046E+00	4.542E+00	A	3.904E+00	5.244E+00	6.101E+00
S	1.307E+00	1.337E+00	1.365E+00	S	1.913E+00	1.463E+00	1.510E+00
Z	1.024E+00	1.086E+00	1.145E+00	Z	1.111E+00	1.252E+00	1.350E+00
NAME	0.711E-01	8.763E-01	6.920E-01	NAME	0.531E-01	9.185E-01	9.503E-01
U	0.959E+00	2.146E+00	2.032E+00	U	5.310E+00	2.569E+00	2.800E+00

PI = 1.00E+05 N/30-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0740E+02	1.0335E+03	1.7039E+03
T	1.7702E+01	2.6369E+01	3.2244E+01
RMU	8.1772E+00	2.9704E+01	3.6742E+01
M	2.5920E+01	5.0889E+01	6.5501E+01
A	9.2232E+00	5.7180E+00	6.7712E+00
S	1.4997E+00	1.5051E+00	1.5644E+00
Z	1.2227E+00	1.3195E+00	1.4372E+00
WAVE	8.7100E+01	9.3968E+01	9.8806E+01
U	1.0097E+01	2.7771E+00	2.8800E+00

SPECIES	MOLE FRACTIONS
E-	1.0000E-07
HE	1.5157E-01
HE+	1.1551E-11
NE+	1.6469E-01
M	4.8425E-01
M+	2.0471E-05
N2	3.6414E-01

PI = 1.00E+05 N/30-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0120E+02	5.2547E+02	8.6800E+02
T	1.3000E+01	1.9372E+01	4.2740E+01
RMU	6.3677E+00	2.3915E+01	5.1662E+01
M	1.8776E+01	3.0959E+01	3.9604E+01
A	3.5422E+00	4.4131E+00	4.9604E+00
S	1.3421E+00	1.3796E+00	1.4260E+00
Z	1.0000E+00	1.1343E+00	1.2001E+00
WAVE	8.6322E+01	9.8630E+01	9.8949E+01
U	7.7420E+00	2.2549E+00	2.1820E+00

SPECIES	MOLE FRACTIONS
E-	1.0094E-04
HE	1.7632E-01
HE+	1.4543E-15
NE+	2.6583E-06
M	3.4410E-00
M+	3.6425E-01
N2	3.1804E-00
	4.7399E-01

PI = 1.00E+05 N/30-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5727E+02	1.2273E+03	2.0510E+03
T	1.5029E+01	2.9054E+01	3.6590E+01
RMU	8.4015E+00	3.0419E+01	3.6940E+01
M	3.9272E+01	5.8488E+01	7.6107E+01
A	4.4770E+00	6.2345E+00	7.3207E+00
S	1.4905E+00	1.5460E+00	1.6090E+00
Z	1.1980E+00	1.3807E+00	1.5174E+00
WAVE	8.7914E+01	9.6335E+01	1.0204E+02
U	1.0009E+01	3.0205E+00	3.2255E+00

SPECIES	MOLE FRACTIONS
E-	3.0702E-07
HE	1.0000E-01
HE+	1.1876E-10
NE+	1.3902E-37
M	5.5964E-01
M+	5.7038E-05
N2	2.9621E-01

PI = 1.00E+05 N/30-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0220E+02	6.7804E+02	1.1172E+03
T	1.5223E+01	2.1581E+01	3.4076E+01
RMU	7.4201E+00	3.7097E+01	4.7300E+01
M	2.4005E+01	4.8104E+01	5.5110E+01
A	3.7500E+00	1.4216E+00	1.4740E+00
S	1.0774E+00	1.1904E+00	1.2794E+00
Z	1.0701E+00	9.0023E-01	9.3144E-01
WAVE	8.6609E+01	2.3981E+01	2.3700E+01
U	8.5322E+00		

SPECIES	MOLE FRACTIONS
E-	1.1309E-00
HE	1.6800E-01
HE+	4.6121E-14
NE+	2.1309E-50
M	3.1995E-01
M+	1.7706E-06
N2	5.1204E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table II. - Continued

$P_1 = 100 \text{ kN/m}^2$

$P_1 = 1.00 \times 10^6 \text{ N/m}^2$ US1 = $1.60 \times 10^4 \text{ M/SEC}$				$P_1 = 1.00 \times 10^6 \text{ N/m}^2$ US1 = $1.90 \times 10^4 \text{ M/SEC}$			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	4.4245E+03	1.4245E+03	2.4245E+03	P	3.1111E+02	1.5860E+03	3.6536E+03
T	3.2017E+01	3.2017E+01	4.1839E+01	T	4.3317E+01	4.3317E+01	8.2474E+01
MU	3.0518E+01	3.0518E+01	3.6465E+01	MU	2.8006E+01	2.8006E+01	3.3849E+01
M	6.6511E+01	6.6511E+01	8.7697E+01	M	9.2829E+01	9.2829E+01	1.2793E+02
A	6.7947E+00	6.7947E+00	8.3544E+00	A	8.6599E+00	8.6599E+00	1.0621E+01
S	1.5859E+00	1.5859E+00	1.6224E+00	S	1.6471E+00	1.6471E+00	1.7893E+00
Z	1.4579E+00	1.4579E+00	1.5900E+00	Z	1.6371E+00	1.6371E+00	1.7502E+00
NAME	4.8908E-01	4.8908E-01	1.0400E+00	NAME	9.3073E-01	1.0575E+00	1.0445E+00
U	3.3070E+00	3.3070E+00	3.6297E+00	U	4.4130E+00	4.4130E+00	4.9907E+00
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-		1.4537E-04		E-		1.6842E-03	
HE		1.3718E-01		HE		1.2217E-01	
HE+		1.0059E-09		HE+		2.7419E-07	
HE++		4.1537E-34		HE++		4.1677E-25	
H		6.2773E-01		H		7.7325E-01	
H+		1.4567E-04		H+		1.6839E-03	
H2		2.3479E-01		H2		1.0121E-01	

$P1 = 1.000E+05$ N/CM² $US1 = 2.00E+04$ M/SEC
 MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
 P 3.444E+02 2.148E+03 4.041E+03
 T 4.630E+01 4.797E+01 6.957E+01
 MU 8.808E+00 2.665E+02 1.424E+02
 M 6.022E+02 1.022E+02 1.122E+01
 A 6.072E+00 9.264E+00 1.802E+00
 S 1.071E+00 1.730E+00 1.771E+00
 Z 1.470E+00 1.680E+00 1.027E+00
 NAME 9.442E+01 1.004E+00 1.027E+00
 U 1.450E+01 4.846E+00 5.397E+00

SPECIES MOLE FRACTIONS
 L- 3.362E-03 2.134E-02
 HE 1.190E-01 1.127E-01
 ME+ 1.344E-00 1.200E-04
 ME+ 1.363E-22 2.248E-15
 H 7.995E-01 8.074E-01
 M+ 3.361E-03 2.122E-02
 H2 1.472E-02 3.723E-02

$P1 = 1.000E+05$ N/CM² $US1 = 2.10E+04$ M/SEC

MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
 P 3.789E+02 2.295E+03 4.414E+03
 T 4.627E+01 2.528E+01 7.639E+01
 MU 8.722E+00 1.114E+02 1.574E+02
 M 6.022E+02 9.814E+00 1.802E+00
 A 6.072E+00 1.762E+00 1.833E+00
 S 1.071E+00 1.715E+00 1.802E+00
 Z 1.470E+00 1.061E+00 1.011E+00
 NAME 9.442E+01 5.290E+00 5.747E+00
 U 1.450E+01 5.290E+00 5.747E+00

SPECIES MOLE FRACTIONS
 L- 6.197E-03 3.191E-02
 HE 1.166E-01 1.105E-01
 ME+ 5.492E-06 3.231E-04
 ME+ 2.219E-20 6.400E-14
 H 8.152E-01 7.920E-01
 M+ 6.192E-03 3.191E-02
 H2 5.575E-02 2.902E-02

$P1 = 1.000E+05$ N/CM² $US1 = 1.70E+04$ M/SEC
 MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
 P 2.400E+02 1.619E+03 2.827E+03
 T 4.100E+01 3.533E+01 4.800E+01
 MU 6.000E+00 3.007E+01 3.503E+01
 M 7.492E+02 1.002E+02 1.002E+02
 A 6.072E+00 7.395E+00 9.182E+00
 S 1.071E+00 1.624E+00 1.694E+00
 Z 1.470E+00 1.524E+00 1.651E+00
 NAME 9.442E+01 1.015E+00 1.061E+00
 U 1.450E+01 3.637E+00 4.070E+00

SPECIES MOLE FRACTIONS
 L- 3.072E-00 2.930E-03
 HE 1.230E-01 1.211E-01
 ME+ 6.227E-14 1.241E-06
 ME+ 6.080E-21 1.190E-22
 H 7.800E-01 7.800E-01
 M+ 3.481E-04 2.920E-03
 H2 1.812E-01 9.292E-02

$P1 = 1.000E+05$ N/CM² $US1 = 1.80E+04$ M/SEC

MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
 P 2.792E+02 1.809E+03 3.242E+03
 T 4.500E+01 3.409E+01 5.510E+01
 MU 8.700E+00 2.920E+01 3.462E+01
 M 4.890E+01 8.372E+00 1.138E+02
 A 6.072E+00 1.661E+00 1.734E+00
 S 1.071E+00 1.584E+00 1.694E+00
 Z 1.470E+00 1.039E+00 1.057E+00
 NAME 9.442E+01 4.003E+00 4.542E+00
 U 1.450E+01 4.003E+00 4.542E+00

SPECIES MOLE FRACTIONS
 L- 7.667E-04 6.607E-03
 HE 1.262E-01 1.110E-01
 ME+ 4.801E-06 8.220E-06
 ME+ 7.007E-20 1.101E-14
 H 7.357E-01 8.004E-01
 M+ 7.667E-04 6.544E-03
 H2 1.365E-01 6.500E-02

Table II. - Continued

 $P_1 = 100 \text{ kN/m}^2$

$P_1 = 1.00E+03 \text{ N/30-M}, \quad US1 = 2.20E+04 \text{ P/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.49E+02	2.42E+03	4.73E+03
T	3.03E+01	3.05E+01	8.26E+01
RHU	6.27E+00	2.39E+01	3.12E+01
M	1.22E+02	1.03E+01	1.72E+02
A	1.94E+00	1.79E+01	1.23E+01
S	1.74E+00	1.74E+00	1.86E+00
Z	1.55E+00	1.04E+00	1.83E+00
U	1.55E+00	5.70E+00	9.98E+01
U	1.55E+00	5.70E+00	6.04E+00
SPECIES ----- MOLE FRACTIONS -----			
Li	1.04E-04	1.04E-04	4.37E-02
He	1.14E-01	1.14E-01	1.00E-01
Ne	7.06E-10	1.84E-05	6.73E-10
Ar	1.43E-05	1.74E-05	9.37E-10
Kr	7.23E-06	8.21E-06	7.79E-06
Xe	1.04E-06	1.04E-06	4.31E-06
U	1.55E-01	4.24E-02	4.4, 0E-02

$P_1 = 1.00E+03 \text{ N/30-M}, \quad US1 = 2.50E+04 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.27E+02	2.76E+03	5.43E+03
T	3.94E+01	7.30E+01	9.88E+01
RHU	1.77E+00	2.07E+01	2.84E+01
M	9.31E+01	1.54E+02	2.17E+02
A	8.50E+00	1.15E+01	1.35E+01
S	1.83E+00	1.87E+00	1.94E+00
Z	1.71E+00	1.82E+00	1.93E+00
U	1.00E+00	1.00E+00	9.67E+01
U	1.79E+01	6.69E+00	6.72E+00
SPECIES ----- MOLE FRACTIONS -----			
Li	1.67E-03	3.27E-02	8.32E-02
He	1.10E-01	1.09E-01	1.00E-01
Ne	7.20E-10	2.54E-04	2.89E-03
Ar	3.70E-05	2.04E-04	1.82E-04
Kr	8.31E-06	8.03E-05	7.17E-05
Xe	1.07E-06	3.25E-05	8.03E-05
U	4.80E-02	2.16E-02	1.50E-02

P1 = 1.00E+05 N/30-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.070E+02	2.8721E+03	5.625E+03
T	4.537E+01	7.7767E+01	1.0301E+02
RMU	7.499E+00	2.0008E+01	2.7637E+01
M	1.002E+02	1.6605E+02	2.3351E+02
A	8.942E+00	1.1919E+01	1.3982E+01
S	1.804E+00	1.9052E+00	1.9757E+00
Z	1.745E+00	1.8458E+00	1.964E+00
NAME	1.009E+00	9.9799E-01	9.6035E-01
U	1.001E+01	6.9363E+00	6.9021E+00

SPECIES	MOLE FRACTIONS
E-	4.2896E-02
HE	1.0788E-01
HE+	4.7355E-04
HE++	1.8803E-13
H	7.8827E-01
H+	4.2423E-02
H2	1.8061E-02
	9.6870E-02
	9.777E-02
	4.0248E-03
	6.3255E-10
	6.9537E-01
	9.2851E-02
	1.3098E-02

P1 = 1.00E+05 N/30-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0922E+02	2.9950E+03	5.824E+03
T	4.748E+01	8.2374E+01	1.0821E+02
RMU	7.263E+00	1.9418E+01	2.694E+01
M	1.082E+02	1.7821E+02	2.4955E+02
A	9.473E+00	1.2348E+01	1.430E+01
S	1.8511E+00	1.9309E+00	2.0019E+00
Z	1.788E+00	1.8724E+00	1.9977E+00
NAME	1.000E+00	9.8861E-01	9.5452E-01
U	1.913E+01	7.1527E+00	7.0375E+00

SPECIES	MOLE FRACTIONS
E-	5.3984E-02
HE	1.0401E-01
HE+	8.0952E-04
HE++	1.7850E-12
H	7.7071E-01
H+	5.3174E-02
H2	1.5317E-02
	1.1445E-01
	9.478E-02
	5.334E-03
	1.8750E-09
	6.7483E-01
	1.0311E-01
	1.144E-02

P1 = 1.00E+05 N/30-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.011E+02	2.5489E+03	5.011E+02
T	4.537E+01	6.3174E+01	6.851E+01
RMU	7.499E+00	2.2791E+01	3.0319E+01
M	1.002E+02	1.3241E+02	1.874E+02
A	8.942E+00	1.0762E+01	1.270E+01
S	1.745E+00	1.8226E+00	1.893E+00
Z	1.804E+00	1.7703E+00	1.867E+00
NAME	1.009E+00	1.0356E+00	9.804E-01
U	1.001E+01	6.0840E+00	6.3049E+00

SPECIES	MOLE FRACTIONS
E-	1.6412E-02
HE	1.1292E-01
HE+	5.164E-05
HE++	6.9181E-17
H	8.2108E-01
H+	1.6360E-02
H2	3.3171E-02
	5.011E+02
	1.000E-01
	1.2199E-03
	7.7039E-12
	7.0019E-01
	5.5491E-02
	2.020E-02

P1 = 1.00E+05 N/30-M, US1 = 2. P/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.8922E+02	2.6590E+03	5.242E+02
T	3.574E+01	6.8150E+01	9.380E+01
RMU	8.000E+00	2.1720E+01	2.940E+01
M	1.002E+02	1.4323E+02	2.024E+02
A	8.977E+00	1.1183E+01	1.314E+01
S	1.804E+00	1.8510E+00	1.9211E+00
Z	1.745E+00	1.7953E+00	1.899E+00
NAME	1.009E+00	1.0215E+00	9.784E-01
U	1.001E+01	6.4117E+00	6.527E+00

SPECIES	MOLE FRACTIONS
E-	2.3900E-02
HE	1.1128E-01
HE+	1.2265E-04
HE++	1.5187E-15
H	8.1439E-01
H+	2.5777E-02
H2	2.6527E-02
	6.9870E-02
	1.0394E-01
	1.9573E-03
	4.314E-11
	7.3949E-01
	6.7910E-02
	1.7524E-02

$$p_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+05 N/30-M, US1= 2.80E+04 M/SEC			
	MOVING SHULK	STANDING SHULK	REFLECTED SHULK
P	6.5243E+02	3.1392E+03	6.0590E+03
T	5.1067E+01	8.6910E+01	1.1219E+02
KHU	7.0792E+00	1.9010E+01	2.6447E+01
M	1.1624E+02	1.9095E+01	2.6631E+02
A	9.9070E+00	1.2724E+01	1.4721E+01
S	1.9120E+00	1.9557E+00	2.0274E+00
Z	1.7844E+00	1.9000E+00	2.0314E+00
GAME	1.4438E+00	9.8042E-01	9.4959E-01
U	1.9759E+01	7.3527E+00	7.2180E+00

P1 = 1.00E+05 N/30-M, US1= 3.20E+04 M/SEC			
	MOVING SHULK	STANDING SHULK	REFLECTED SHULK
P	6.4234E+02	3.9524E+03	7.4201E+03
T	6.7290E+01	1.0455E+02	1.3179E+02
KHU	6.0762E+00	1.8694E+01	2.5593E+01
M	1.3212E+02	2.4810E+02	3.4194E+02
A	1.1110E+01	1.4215E+01	1.6649E+01
S	2.0047E+00	2.0475E+00	2.1242E+00
Z	1.8072E+00	2.0204E+00	2.1739E+00
GAME	9.0157E-01	9.5574E-01	9.4420E-01
U	2.2409E+01	8.1024E+00	7.9013E+00

P1 = 1.00E+05 N/30-M, US1= 2.80E+04 M/SEC			
	MOVING SHULK	STANDING SHULK	REFLECTED SHULK
P	6.5243E+02	3.1392E+03	6.0590E+03
T	5.1067E+01	8.6910E+01	1.1219E+02
KHU	7.0792E+00	1.9010E+01	2.6447E+01
M	1.1624E+02	1.9095E+01	2.6631E+02
A	9.9070E+00	1.2724E+01	1.4721E+01
S	1.9120E+00	1.9557E+00	2.0274E+00
Z	1.7844E+00	1.9000E+00	2.0314E+00
GAME	1.4438E+00	9.8042E-01	9.4959E-01
U	1.9759E+01	7.3527E+00	7.2180E+00

P1 = 1.00E+05 N/30-M, US1= 3.20E+04 M/SEC			
	MOVING SHULK	STANDING SHULK	REFLECTED SHULK
P	6.4234E+02	3.9524E+03	7.4201E+03
T	6.7290E+01	1.0455E+02	1.3179E+02
KHU	6.0762E+00	1.8694E+01	2.5593E+01
M	1.3212E+02	2.4810E+02	3.4194E+02
A	1.1110E+01	1.4215E+01	1.6649E+01
S	2.0047E+00	2.0475E+00	2.1242E+00
Z	1.8072E+00	2.0204E+00	2.1739E+00
GAME	9.0157E-01	9.5574E-01	9.4420E-01
U	2.2409E+01	8.1024E+00	7.9013E+00

P1 = 1.00E+05 N/30-M, US1= 2.80E+04 M/SEC			
	MOVING SHULK	STANDING SHULK	REFLECTED SHULK
P	6.5243E+02	3.1392E+03	6.0590E+03
T	5.1067E+01	8.6910E+01	1.1219E+02
KHU	7.0792E+00	1.9010E+01	2.6447E+01
M	1.1624E+02	1.9095E+01	2.6631E+02
A	9.9070E+00	1.2724E+01	1.4721E+01
S	1.9120E+00	1.9557E+00	2.0274E+00
Z	1.7844E+00	1.9000E+00	2.0314E+00
GAME	1.4438E+00	9.8042E-01	9.4959E-01
U	1.9759E+01	7.3527E+00	7.2180E+00

P1 = 1.00E+05 N/30-M, US1= 3.20E+04 M/SEC			
	MOVING SHULK	STANDING SHULK	REFLECTED SHULK
P	6.4234E+02	3.9524E+03	7.4201E+03
T	6.7290E+01	1.0455E+02	1.3179E+02
KHU	6.0762E+00	1.8694E+01	2.5593E+01
M	1.3212E+02	2.4810E+02	3.4194E+02
A	1.1110E+01	1.4215E+01	1.6649E+01
S	2.0047E+00	2.0475E+00	2.1242E+00
Z	1.8072E+00	2.0204E+00	2.1739E+00
GAME	9.0157E-01	9.5574E-01	9.4420E-01
U	2.2409E+01	8.1024E+00	7.9013E+00

P1 = 1.00E+05 N/30-M, US1= 2.80E+04 M/SEC			
	MOVING		

PI = 1.00E+05 N/30-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.9758E+02	3.3074E+03	6.3377E+03
T	5.5755E+01	9.1394E+01	1.1741E+02
RHO	6.9455E+00	1.8763E+01	2.6130E+01
M	1.2452E+02	2.0431E+02	2.8384E+02
A	1.0153E+01	1.3037E+01	1.5144E+01
S	1.9393E+00	1.9786E+00	2.0524E+00
Z	1.8014E+00	1.9288E+00	1.9050E+00
GAME	1.0264E+00	9.7315E-01	9.4613E-01
U	2.0400E+01	7.5455E+00	7.3802E+00

SPECIES	MOLE FRACTIONS	
E-	1.5655E-02	7.8287E-02
HE	1.1101E-01	1.0175E-01
HE+	1.9203E-03	1.9472E-03
HE++	8.5726E-19	3.1143E-11
H	8.4281E-01	7.3015E-01
H+	1.2636E-02	7.6339E-02
H2	1.4877E-02	1.1530E-02

PI = 1.00E+05 N/30-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.4478E+02	3.4997E+03	6.6611E+03
T	5.9742E+01	9.5839E+01	1.2211E+02
RHO	6.9544E+00	1.8645E+01	2.5902E+01
M	1.3311E+02	2.1830E+02	3.0224E+02
A	1.0460E+01	1.3470E+01	1.5569E+01
S	1.9610E+00	2.0027E+00	2.0707E+00
Z	1.8189E+00	1.9585E+00	2.1010E+00
GAME	1.0100E+00	9.6646E-01	9.4412E-01
U	2.1050E+01	7.7348E+00	7.5527E+00

SPECIES	MOLE FRACTIONS	
E-	2.2470E-02	9.1107E-02
HE	1.0091E-01	9.9327E-02
HE+	4.6030E-05	2.7937E-03
HE++	1.9788E-17	1.1890E-10
H	8.3306E-01	7.0827E-01
H+	2.2444E-02	8.8313E-02
H2	1.2090E-02	1.0192E-02

PI = 1.00E+05 N/30-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.5307E+02	4.4854E+03	8.4500E+03
T	6.4344E+01	1.1338E+02	1.4602E+02
RHO	6.7502E+00	1.8974E+01	2.6116E+01
M	1.0707E+02	2.8053E+02	3.8414E+02
A	1.1722E+01	1.4972E+01	1.6304E+01
S	2.0422E+00	2.0909E+00	2.1704E+00
Z	1.9007E+00	2.0850E+00	2.2594E+00
GAME	9.4290E-01	9.4623E-01	9.5077E-01
U	2.3004E+01	8.4632E+00	8.2943E+00

SPECIES	MOLE FRACTIONS	
E-	1.5947E-02	1.4344E-01
HE	1.0047E-01	8.7800E-02
HE+	2.0040E-04	8.0023E-03
HE++	1.1221E-13	7.7316E-04
H	6.0700E-01	6.1853E-01
H+	5.0771E-02	1.7537E-01
H2	6.2234E-03	6.7395E-03

PI = 1.00E+05 N/30-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0771E+03	5.0872E+03	9.3911E+03
T	6.0090E+01	1.2211E+02	1.5207E+02
RHO	6.7004E+00	1.9363E+01	2.6321E+01
M	1.9112E+02	3.1513E+02	4.3024E+02
A	1.2231E+01	1.5757E+01	1.8524E+01
S	2.0042E+00	2.1344E+00	2.2174E+00
Z	1.9407E+00	2.1515E+00	2.3274E+00
GAME	9.6393E-01	9.4502E-01	9.6242E-01
U	2.3221E+01	8.8273E+00	8.7360E+00

SPECIES	MOLE FRACTIONS	
E-	0.4920E-02	1.5906E-01
HE	1.0150E-01	8.1473E-02
HE+	1.1314E-03	1.1480E-02
HE++	2.0002E-12	3.7388E-08
H	7.5041E-01	5.7478E-01
H+	6.0337E-02	1.5758E-01
H2	5.1518E-03	5.6318E-03

Table II. - Continued

 $P_1 = 100 \text{ kN/m}^2$

$P_1 = 1.00 \times 10^5 \text{ N/m}^2$ $US1 = 3.80 \times 10^4 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.193E+03	5.748E+03	1.050E+04
T	6.722E+01	1.309E+02	1.640E+02
KNU	0.835E+00	1.977E+01	2.652E+01
M	2.123E+02	3.519E+02	4.801E+02
A	1.292E+01	1.658E+01	1.971E+01
S	2.123E+00	2.172E+00	2.260E+00
Z	2.000E+00	2.221E+00	2.412E+00
NAME	9.500E-01	9.466E-01	9.769E-01
U	2.000E+01	9.208E+00	9.233E+00
SPECIES			
	MOLE FRACTIONS		
E-	1.099E-01	1.939E-01	2.513E-01
HE	9.104E-02	7.508E-02	6.003E-02
NE+	2.149E-03	1.500E-02	2.204E-02
NE+	2.155E-11	1.436E-07	4.327E-06
H	0.891E-01	5.322E-01	4.212E-01
N+	1.022E-01	1.789E-01	2.394E-01
N2	9.112E-03	4.732E-03	3.557E-03

$P_1 = 1.00 \times 10^5 \text{ N/m}^2$ $US1 = 4.40 \times 10^4 \text{ M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.600E+03	8.012E+03	1.480E+04
T	1.510E+02	1.591E+02	2.060E+02
KNU	7.044E+00	2.065E+01	2.673E+01
M	4.052E+02	4.746E+02	6.523E+02
A	1.400E+01	1.944E+01	2.384E+01
S	2.233E+00	2.297E+00	2.390E+00
Z	2.171E+00	2.437E+00	2.679E+00
NAME	9.443E-01	9.751E-01	1.023E+00
U	3.102E+01	1.057E+01	1.110E+01
SPECIES			
	MOLE FRACTIONS		
E-	1.733E-01	2.641E-01	3.290E-01
HE	0.942E-02	5.845E-02	4.754E-02
NE+	7.993E-03	2.360E-02	2.704E-02
NE+	3.437E-09	3.344E-06	6.630E-05
H	5.007E-01	4.105E-01	2.912E-01
N+	1.023E-01	2.405E-01	3.020E-01
N2	2.400E-03	2.724E-03	1.650E-03

P1 = 1.00E+05 N/50-M, US1 = 4.00E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3244E+03	6.4653E+03	1.1857E+04
T	9.3425E+01	1.3996E+02	1.7713E+02
AMU	6.8992E+00	2.0174E+01	2.6679E+01
M	2.3393E+02	3.9090E+02	5.3370E+02
A	1.2210E+01	1.7474E+01	2.1007E+01
S	2.1608E+00	2.2159E+00	2.3081E+00
Z	2.0525E+00	2.2899E+00	2.5002E+00
WAME	5.5144E-01	9.5272E-01	9.9301E-01
U	2.8107E+01	9.6068E+00	9.7920E+00

SPECIES	MOLE FRACTIONS		
C-	1.4270E-01	2.1792E-01	2.4492E-01
HE	9.5005E-02	6.9049E-02	5.5277E-02
ME+	3.0264E-03	1.8291E-02	2.4050E-02
ME++	1.5408E-10	4.6039E-07	1.1278E-05
M	8.4757E-01	4.9114E-01	3.1004E-01
M+	1.2400E-01	1.9963E-01	2.5625E-01
MZ	3.4303E-03	3.9806E-03	2.8031E-03

P1 = 1.00E+05 N/50-M, US1 = 4.20E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4030E+03	7.2185E+03	1.3202E+04
T	9.5246E+01	1.4942E+02	1.9129E+02
AMU	6.9709E+00	2.0441E+01	2.6740E+01
M	2.0012E+02	4.3171E+02	5.9103E+02
A	1.4100E+01	1.8439E+01	2.2303E+01
S	2.1903E+00	2.2573E+00	2.3525E+00
Z	2.1124E+00	2.3634E+00	2.5892E+00
WAME	9.4730E-01	9.6277E-01	1.0067E+00
U	2.4503E+01	1.0073E+01	1.0413E+01

SPECIES	MOLE FRACTIONS		
C-	1.5073E-01	2.4167E-01	3.0040E-01
HE	8.9908E-02	6.5392E-02	5.1106E-02
ME+	3.5032E-03	2.1232E-02	2.6030E-02
ME++	8.1751E-10	1.3175E-06	2.8003E-05
M	6.0057E-01	4.4996E-01	3.3270E-01
M+	1.4515E-01	2.2044E-01	2.8089E-01
MZ	2.8027E-03	3.3012E-03	2.1767E-03

P1 = 1.00E+05 N/50-M, US1 = 4.60E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7007E+03	8.8373E+03	1.6439E+04
T	1.1000E+02	1.6938E+02	2.2272E+02
AMU	7.1147E+00	2.0766E+01	2.6606E+01
M	3.1209E+02	5.1905E+02	7.1743E+02
A	1.5276E+01	2.0515E+01	2.5208E+01
S	2.2722E+00	2.3365E+00	2.4387E+00
Z	2.2519E+00	2.5125E+00	2.7676E+00
WAME	9.4277E-01	9.8893E-01	1.0329E+00
U	3.4409E+01	1.1123E+01	1.1814E+01

SPECIES	MOLE FRACTIONS		
C-	1.5258E-01	2.8580E-01	3.5072E-01
HE	7.6023E-02	5.4096E-02	4.4270E-02
ME+	1.0774E-02	2.5498E-02	2.7000E-02
ME++	1.4207E-06	7.8584E-06	1.4481E-06
M	3.2550E-01	3.7210E-01	2.5381E-01
M+	1.5461E-01	2.6029E-01	3.2257E-01
MZ	2.0270E-03	2.2165E-03	1.2401E-03

P1 = 1.00E+05 N/50-M, US1 = 4.80E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9196E+03	9.6780E+03	1.8174E+04
T	1.1002E+02	1.8005E+02	2.4022E+02
AMU	7.1792E+00	2.0767E+01	2.6521E+01
M	3.3902E+02	5.6527E+02	7.8593E+02
A	1.5874E+01	2.1618E+01	2.6702E+01
S	2.3092E+00	2.3751E+00	2.4810E+00
Z	2.2530E+00	2.5884E+00	2.8520E+00
WAME	9.4293E-01	1.0028E+00	1.0402E+00
U	3.3531E+01	1.1739E+01	1.2601E+01

SPECIES	MOLE FRACTIONS		
C-	2.4071E-01	3.0237E-01	3.7012E-01
HE	7.3417E-02	5.0294E-02	4.1142E-02
ME+	1.2000E-02	2.6557E-02	2.8041E-02
ME++	3.0002E-08	1.7192E-05	3.0252E-06
M	4.5149E-01	3.3521E-01	2.1799E-01
M+	4.0290E-01	2.7938E-01	3.4008E-01
MZ	1.7124E-03	1.7801E-03	9.1019E-04

Table II. - Continued

$$P_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+03 N/CM ² US1 = 5.00E+04 P/SEC				P1 = 1.00E+03 N/CM ² US1 = 5.60E+04 P/SEC			
P	MOVING SHOCK		REFLECTED SHOCK	P	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	MOLE FRACTIONS			STANDING SHOCK	MOLE FRACTIONS	
T	1.0533E+04	3.2595E-01	1.9941E+04	T	1.3129E+04	3.7614E-01	2.5810E+04
RMJ	1.9128E+02	4.6944E-02	2.5800E+02	RMJ	2.2770E+02	3.8589E-02	3.1971E+02
M	2.0604E+01	2.8111E-02	2.6335E+01	M	2.0006E+01	3.0502E-02	2.5661E+01
A	6.1321E+02	5.9424E-04	8.5813E+02	A	7.6631E+02	3.1852E-03	1.0937E+03
S	2.2760E+01	3.5729E-03	2.4202E+01	S	2.6239E+01	2.0872E-01	3.2652E+01
Z	2.4134E+03	2.9982E-01	2.5217E+03	Z	2.5221E+03	2.6370E+00	3.1409E+00
GAME	2.6649E+00	2.9777E-01	2.9350E+00	GAME	2.4822E+00	3.1409E+00	1.6547E+00
U	1.0163E+00	1.4069E-03	1.0541E+00	U	1.0491E+00	1.6547E+00	1.5805E+01
	1.2376E+01	1.4069E-03	1.3404E+01		1.4540E+01		
SPECIES	MOVING SHOCK		REFLECTED SHOCK		MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	MOLE FRACTIONS			STANDING SHOCK	MOLE FRACTIONS	
LT	4.0755E-01	3.2595E-01	3.8115E-02	LT	4.6211E+03	2.9489E-01	4.2002E-01
HE	0.7684E-02	4.6944E-02	3.8115E-02	HE	1.4035E+02	3.8589E-02	2.8420E-02
HE+	1.6975E-02	2.8111E-02	2.9425E-02	HE+	4.5071E+02	3.0502E-02	3.1893E-02
HE++	1.0047E-07	3.5729E-03	5.9424E-04	HE++	4.2472E+06	2.3458E-04	3.1852E-03
M	4.0557E-01	2.9982E-01	1.8104E-01	M	3.5083E-01	2.0872E-01	1.1712E-01
H+	4.2056E-01	2.9777E-01	3.5670E-01	H+	2.0900E-01	3.4510E-01	3.9030E-01
H2	1.4428E-03	1.4069E-03	6.7290E-04	H2	8.4733E-04	6.5512E-04	2.6200E-04

P1 = 1.00E+03 N/30-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.277E+03	1.1407E+04	2.1901E+04
T	1.6021E+02	2.0289E+02	2.7817E+02
RMU	7.2794E+00	2.0527E+01	2.6194E+01
M	3.9809E+02	6.6277E+02	9.3304E+02
A	1.7150E+04	2.3907E+01	2.9781E+01
S	2.3019E+00	2.4501E+00	2.5613E+00
Z	2.4194E+00	2.7389E+00	3.0119E+00
NAME	9.4912E-01	1.0285E+00	1.0500E+00
U	3.0801E+01	1.3067E+01	1.4226E+01

SPECIES	MOLE FRACTIONS
C-	2.5722E-01
HE	6.2765E-02
HE+	2.0101E-02
HE++	2.4030E-07
H	4.4177E-01
H+	2.5712E-01
H2	1.2178E-03

P1 = 1.00E+03 N/30-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4362E+03	1.2223E+04	2.3851E+04
T	1.3410E+02	2.1500E+02	2.9801E+02
RMU	7.3007E+00	2.0286E+01	2.5903E+01
M	4.3013E+02	7.1367E+02	1.0125E+03
A	1.7642E-01	2.5069E+01	3.1242E+01
S	2.4180E+00	2.4865E+00	2.6007E+00
Z	2.4091E+00	2.8117E+00	3.0832E+00
NAME	9.5221E-01	1.0395E+00	1.0661E+00
U	3.0504E+01	1.3810E+01	1.5071E+01

SPECIES	MOLE FRACTIONS
C-	2.7091E-01
HE	5.7494E-02
HE+	2.3100E-02
HE++	5.7339E-07
H	3.8875E-01
H+	2.2350E-01
H2	4.0047E-03

P1 = 1.00E+03 N/30-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8113E+03	1.3955E+04	2.7700E+04
T	1.9601E+02	2.4076E+02	3.4081E+02
RMU	7.3117E+00	1.9652E+01	2.5300E+01
M	4.9011E+02	8.2008E+02	1.1772E+03
A	1.9330E+01	2.7394E+01	3.4030E+01
S	2.4993E+00	2.5570E+00	2.8739E+00
Z	2.6109E+00	2.9495E+00	3.2090E+00
NAME	9.7203E-01	1.0567E+00	1.0594E+00
U	4.1151E+01	1.5324E+01	1.6603E+01

SPECIES	MOLE FRACTIONS
C-	3.1203E-01
HE	4.6005E-02
HE+	2.0919E-02
HE++	2.0344E-06
H	3.2300E-01
H+	2.0943E-01
H2	6.9339E-04

P1 = 1.00E+03 N/30-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0070E+03	1.4785E+04	2.9753E+04
T	1.5343E+02	2.5437E+02	3.6200E+02
RMU	7.3006E+00	1.9290E+01	2.5119E+01
M	5.3001E+02	8.7534E+02	1.2634E+03
A	2.0117E+01	2.8534E+01	3.5432E+01
S	2.5246E+00	2.5910E+00	2.7091E+00
Z	2.6020E+00	3.0132E+00	3.2600E+00
NAME	9.6314E-01	1.0623E+00	1.0599E+00
U	4.2530E+01	1.8125E+01	1.9470E+01

SPECIES	MOLE FRACTIONS
C-	3.2496E-01
HE	4.3366E-02
HE+	3.0500E-02
HE++	3.1174E-06
H	1.6067E-01
H+	2.9944E-01
H2	3.0807E-04

$p_1 = 100 \text{ kN/m}^2$

P1 = 1.00E+03 N/SEC-M, US1 = 6.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.00E+03	1.7894E+04	3.73E+04
T	1.83E+02	3.1267E+02	4.5670E+02
MW	7.09E+02	1.7714E+01	2.3654E+01
M	8.00E+02	1.1109E+03	1.0E+03
A	2.30E+01	3.2784E+01	4.14E+01
S	2.06E+02	2.7203E+00	2.84E+00
Z	4.4E+02	3.2307E+00	3.45E+00
NAME	1.0E+02	1.0E+02	1.0E+02
U	4.00E+01	1.9235E+01	2.06E+01

P1 = 1.00E+03 N/SEC-M, US1 = 6.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.00E+03	1.5586E+04	3.1601E+04
T	1.80E+02	2.6875E+02	3.84E+02
MW	7.09E+02	1.8879E+01	2.40E+01
M	8.00E+02	9.3195E+02	1.3512E+03
A	2.30E+01	2.9054E+01	3.08E+01
S	2.06E+02	2.6202E+00	2.74E+00
Z	4.4E+02	3.0140E+00	3.31E+00
NAME	1.0E+02	1.0E+02	1.0E+02
U	4.00E+01	1.6922E+01	1.82E+01

P1 = 1.00E+03 N/SEC-M, US1 = 6.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.00E+03	1.7894E+04	3.73E+04
T	1.83E+02	3.1267E+02	4.5670E+02
MW	7.09E+02	1.7714E+01	2.3654E+01
M	8.00E+02	1.1109E+03	1.0E+03
A	2.30E+01	3.2784E+01	4.14E+01
S	2.06E+02	2.7203E+00	2.84E+00
Z	4.4E+02	3.2307E+00	3.45E+00
NAME	1.0E+02	1.0E+02	1.0E+02
U	4.00E+01	1.9235E+01	2.06E+01

PI = 1.00E+04 N/SEC US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.432E+03	1.637E+04	3.357E+04
T	1.070E+02	2.829E+02	4.070E+02
MU	6.227E+00	1.850E+01	2.447E+01
M	6.022E+00	9.901E+01	1.441E+03
A	4.000E+01	3.072E+01	3.820E+01
S	2.000E+00	2.652E+00	2.700E+00
Z	4.010E+00	3.129E+00	3.367E+00
WAVE	1.000E+00	1.065E+00	1.060E+00
U	9.000E+00	1.765E+01	1.850E+01

SPECIES MOLE FRACTIONS

C	3.000E-01	4.250E-01	4.630E-01
HE	3.000E-02	2.874E-02	1.405E-02
ME	3.000E-02	3.334E-02	3.232E-02
NE	1.000E-01	1.817E-03	1.442E-02
N	4.000E-01	1.224E-01	8.647E-02
HC	3.000E-01	3.840E-01	4.007E-01
MC	3.000E-01	2.116E-04	8.432E-05

PI = 1.00E+04 N/SEC US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.432E+03	1.715E+04	3.567E+04
T	1.070E+02	2.976E+02	4.070E+02
MU	6.227E+00	1.811E+01	2.447E+01
M	6.022E+00	1.049E+03	1.532E+03
A	4.000E+01	3.175E+01	3.984E+01
S	2.000E+00	2.680E+00	2.700E+00
Z	4.010E+00	3.181E+00	3.614E+00
WAVE	1.010E+00	1.065E+00	1.070E+00
U	9.000E+00	1.846E+01	1.972E+01

SPECIES MOLE FRACTIONS

C	3.000E-01	4.343E-01	4.760E-01
HE	3.000E-02	2.824E-02	1.407E-02
ME	3.000E-02	3.387E-02	3.150E-02
NE	1.000E-01	2.743E-03	1.542E-02
N	2.000E-01	1.075E-01	2.761E-02
HC	3.000E-01	3.950E-01	4.100E-01
MC	2.000E-04	1.597E-04	6.250E-05

PI = 1.00E+04 N/SEC US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.000E+03	1.864E+04	3.916E+04
T	1.920E+02	3.281E+02	4.833E+02
MU	7.019E+00	1.733E+01	2.317E+01
M	7.000E+00	1.173E+03	1.730E+03
A	2.450E+01	3.379E+01	4.305E+01
S	2.000E+00	2.751E+00	2.874E+00
Z	3.000E+00	3.277E+00	3.496E+00
WAVE	1.000E+00	1.062E+00	1.097E+00
U	4.934E+01	1.995E+01	2.141E+01

SPECIES MOLE FRACTIONS

C	4.015E-01	4.508E-01	4.853E-01
HE	2.890E-02	2.106E-02	7.000E-03
ME	3.744E-02	3.437E-02	2.809E-02
NE	1.103E-04	5.594E-03	2.229E-02
N	1.670E-01	8.281E-02	4.354E-02
HC	3.037E-01	4.052E-01	4.153E-01
MC	1.083E-04	9.155E-05	3.527E-05

Table III.- Nondimensional Thermodynamic Properties and Flow Velocity for Incident (moving), Standing, and Reflected Normal Shocks in a 0.05He-0.95H₂ Mixture

[User cautioned about using table at pressures exceeding
10 MN/m² and temperatures exceeding 25 000 K

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/50-M, US1= 4.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1124E+01	2.2087E+01	5.6531E+01
T	2.8248E+00	3.5080E+00	4.9494E+00
RHO	3.9278E+00	6.5823E+00	1.1423E+01
M	2.8801E+00	3.6101E+00	5.1948E+00
A	1.6757E+00	1.8401E+00	2.1840E+00
S	1.0445E+00	1.0400E+00	1.0426E+00
Z	1.0000E+00	1.0000E+00	1.0001E+00
GAME	9.9407E-01	9.8437E-01	9.8383E-01
U	2.3176E+00	1.3854E+00	1.2205E+00
SPECIES			
MOLE FRACTIONS			
E-	5.4860E-62	2.3054E-43	1.6283E-27
HE	5.0000E-02	5.0000E-02	4.9997E-02
ME+	8.8300E-74	7.8232E-63	1.5514E-53
HE++	0.	0.	0.
H	4.3418E-10	5.8338E-08	1.3407E-04
M+	6.3460E-20	6.3460E-20	6.3454E-20
M2	9.5000E-01	9.5000E-01	9.4987E-01

P1 = 5.00E+00 N/50-M, US1= 7.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5043E+01	1.3981E+02	2.2302E+02
T	4.2943E+00	7.8423E+00	8.5288E+00
RHO	5.1559E+00	1.7132E+01	2.5437E+01
M	2.7975E+00	1.0698E+01	1.3445E+01
A	2.3429E+00	2.5794E+00	2.7174E+00
S	1.2222E+00	1.1357E+00	1.1584E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.8378E-01	8.1490E-01	8.0694E-01
U	4.541E+00	1.4419E+00	1.2403E+00
SPECIES			
MOLE FRACTIONS			
E-	1.2928E-18	5.0776E-14	7.4688E-13
HE	4.9788E-02	4.8178E-02	4.6075E-02
ME+	1.0524E-43	2.5779E-36	8.9008E-35
HE++	0.	0.	0.
H	8.4954E-03	7.2870E-02	1.3591E-01
M+	1.3540E-18	5.0776E-14	7.4688E-13
M2	9.4172E-01	8.7894E-01	8.1744E-01

P1 = 5.00E+00 N/SQ-M, US1= 5.00E+03 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	1.7520E+01	4.8653E+01	1.0106E+02
T	3.8709E+00	5.1448E+00	6.7124E+00
RMO	4.5267E+00	9.0442E+00	1.4961E+01
M	3.9998E+00	5.4354E+00	7.5749E+00
A	1.9490E+00	2.2229E+00	2.4287E+00
S	1.0729E+00	1.0762E+00	1.0931E+00
Z	1.0009E+00	1.0002E+00	1.0061E+00
GAME	9.8148E-01	9.5781E-01	8.7332E-01
U	3.0254E+00	1.51130E+00	1.3121E+00

SPECIES	MOLE FRACTIONS	
E-	7.3489E-40	2.0087E-24
HE	5.0000E-02	4.9922E-02
ME+	2.7413E-81	6.3172E-42
ME++	0.	0.
M	1.5818E-06	3.2429E-04
M+	6.3465E-20	4.3452E-20
M2	9.4000E-01	9.4968E-01

P1 = 5.00E+00 N/SQ-M, US1= 6.00E+02 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	2.5419E+01	8.2642E+01	1.5652E+02
T	5.0844E+00	6.7912E+00	7.7794E+00
RMO	4.9940E+00	1.2073E+01	1.9500E+01
M	5.3589E+00	7.7676E+00	1.0263E+01
A	2.2211E+00	2.4300E+00	2.5649E+00
S	1.0978E+00	1.0445E+00	1.1239E+00
Z	1.0002E+00	1.0079E+00	1.0317E+00
GAME	9.5803E-01	8.6763E-01	8.2027E-01
U	3.7268E+00	1.5404E+00	1.2423E+00

SPECIES	MOLE FRACTIONS	
E-	1.6215E-25	1.3516E-16
HE	4.9922E-02	4.9607E-02
ME+	9.1779E-75	6.3380E-42
ME++	0.	0.
M	3.9502E-04	1.5728E-02
M+	4.3450E-20	1.3423E-16
M2	9.4947E-01	9.3467E-01

P1 = 5.00E+00 N/SQ-M, US1= 8.00E+03 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	4.6870E+01	2.3024E+02	3.5789E+02
T	7.1472E+00	8.5415E+00	9.1943E+00
RMO	4.4183E+00	2.4562E+01	3.4012E+01
M	8.8767E+00	1.4238E+01	1.7409E+01
A	7.4557E+00	2.7479E+00	2.8881E+00
S	1.1477E+00	1.1709E+00	1.1074E+00
Z	1.0204E+00	1.0846E+00	1.1200E+00
GAME	8.2672E-01	8.5538E-01	8.6455E-01
U	5.2448E+00	1.3698E+00	1.7209E+00

SPECIES	MOLE FRACTIONS	
E-	2.1014E-14	1.1527E-12
HE	4.8998E-02	4.4097E-02
ME+	7.5191E-40	4.4286E-35
ME++	0.	0.
M	4.7079E-02	1.5430E-01
M+	2.1117E-15	1.1527E-12
M2	9.1997E-01	7.9761E-01

P1 = 5.00E+00 N/SQ-M, US1= 9.00E+03 M/SEC

	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	6.0409E+01	3.4084E+02	4.2342E+02
T	7.7241E+00	9.3124E+00	9.8149E+00
RMO	7.4774E+00	3.2881E+01	4.4324E+01
M	1.1334E+01	1.8228E+01	2.1792E+01
A	2.5544E+00	2.9254E+00	3.0744E+00
S	1.1321E+00	1.2109E+00	1.2412E+00
Z	1.0470E+00	1.1439E+00	1.1952E+00
GAME	8.0743E-01	8.7389E-01	8.7537E-01
U	4.9449E+00	1.3374E+00	1.2190E+00

SPECIES	MOLE FRACTIONS	
E-	4.5365E-16	1.1663E-11
HE	4.7711E-02	4.3711E-02
ME+	4.7424E-37	1.0404E-29
ME++	0.	0.
M	8.9864E-02	2.5117E-01
M+	4.5365E-14	1.1443E-11
M2	8.6238E-01	7.0472E-01

$$p_1 = 5 \text{ N/m}^2$$

P1 = 5.00F+00 M/SQ-M, US1= 1.00F+00 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5924E+01	5.3413E+02	7.4609E+02
T	8.1842E+00	9.9208E+00	9.0407E+01
RHO	9.5816E+00	4.4301E+01	5.0430E+01
M	1.3642E+01	2.2970E+01	2.6827E+01
W	2.6613E+00	3.1140E+00	3.2724E+00
A	1.2052E+00	1.2551E+00	1.2892E+00
S	7.0808E+00	1.2132E+00	1.2727E+00
Z	8.0065E-01	8.0845E-01	8.0845E-01
GAME	6.8610E+00	1.3267E+00	1.2333E+00
U			
SPECIES	----- MOLE FRACTIONS -----		
F-	3.7416E-12	6.8682E-11	2.4713E-10
HE	4.6262E-07	4.1215E-07	3.9287E-02
HE+	9.7723E-15	2.7334E-29	6.3488E-28
HF+	0.	0.	0.
H	1.4954E-01	3.5141E-01	4.2853E-01
M+	3.7416E-01	6.8682E-11	2.4713E-
M2	8.0420E-01	6.0738E-01	5.3218E-

P1 = 5.00E+00 M/SQ-M, US1= 1.30E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3213E+02	1.3286E+03	1.7507E+03
T	9.2412E+00	1.1646E+01	1.2233E+01
RHO	1.1760E+01	7.7395E+01	9.1616E+01
M	2.2162E+01	3.9595E+01	4.5262E+01
W	2.9955E+00	3.7517E+00	3.9763E+00
A	1.3106E+00	1.4095E+00	1.4551E+00
S	1.2157E+00	1.4761E+00	1.5621E+00
Z	7.9870E-01	8.1907E-01	8.2741E-01
U	9.2369E+00	1.4040E+00	1.3599E+00
SPECIES	----- MOLE FRACTIONS -----		
F-	1.9469E-11	3.7210E-09	1.0939E-08
HE	4.1129E-02	3.3918E-02	3.2008E-02
HE+	3.9700E-31	4.5695E-25	6.6717E-24
HF+	0.	2.7017E-91	4.2451E-86
H	3.5484E-01	6.4329E-01	7.1969E-01
M+	1.9469E-11	3.7910E-09	1.0939E-08
M2	6.0403E-01	3.2279E-01	2.4930E-01

P1 = 5.00E+00 N/SQ-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.3721E+01	7.5278E+02	1.0237E+03
T	8.5709E+00	1.0499E+01	1.0991E+01
PMO	9.4851E+00	5.5514E+01	6.8489E+01
M	1.6190E+01	2.8000E+01	3.2412E+01
A	1.7690E+00	3.3125E+00	3.4862E+00
S	1.7378E+00	1.3033E+00	1.3411E+00
Z	1.1206E+00	1.2918E+00	1.3600E+00
GAME	7.9837E+01	8.0906E+01	8.1308E+01
U	7.6605E+00	1.3348E+00	1.2403E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.7972E-12	3.1113E-10	9.5169E-10
HF	4.4620E-02	3.8708E-02	2.6765E-02
HE+	1.8861E-33	2.3759E-28	1.5915E-26
HF++	0.	0.	0.
M	2.1520E-01	4.5149E-01	5.2939E-01
M+	1.7972E-12	3.1113E-10	9.5169E-10
M2	7.4018E-01	5.0960E-01	4.3385E-01

P1 = 5.00E+00 N/SQ-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1174E+02	1.0178E+03	1.3584E+03
T	8.9149E+00	1.1067E+01	1.1590E+01
PMO	1.0754E+01	6.6498E+01	8.6474E+01
M	1.9006E+01	3.5548E+01	3.8543E+01
A	2.8800E+00	5240E+00	3.7187E+00
S	1.2770E+00	1.3549E+00	1.3969E+00
Z	1.1647E+00	1.3789E+00	1.4547E+00
GAME	7.9807E+01	8.1375E+01	8.1913E+01
U	8.4919E+00	1.3431E+00	1.3030E+00

SPECIES ----- MOLE FRACTIONS -----

E-	6.2228E-12	1.1513E-09	3.2859E-09
HF	4.7894E-02	5.6260E-02	3.4325E-02
HE+	3.3865E-33	2.2128E-26	3.2714E-25
HF++	0.	0.	7.6011E-91
M	2.8423E-01	5.4959E-01	6.2698E-01
M+	6.2228E-12	1.1513E-09	3.2859E-09
M2	6.7288E-01	4.1414E-01	3.3869E-01

P1 = 5.00E+00 N/SQ-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5413E+02	1.6855E+03	2.2039E+03
T	9.4470E+00	1.2266E+01	1.2981E+01
PMO	1.2707E+01	8.7158E+01	1.0134E+02
M	2.5549E+01	4.6107E+01	5.2570E+01
A	3.1155E+00	4.0018E+00	4.2748E+00
S	1.3304E+00	1.4664E+00	1.5183E+00
Z	1.2705E+00	1.5766E+00	1.6753E+00
GAME	8.019E+01	8.2815E+01	8.4028E+01
U	1.0016E+01	1.4606E+00	1.4359E+00

SPECIES ----- MOLE FRACTIONS -----

E-	5.0393E-11	1.1849E-08	3.8596E-08
HF	3.9353E-02	3.1715E-02	2.9844E-02
HE+	3.1078E-30	6.0233E-24	1.6150E-22
HF++	0.	3.1030E-85	5.3749E-01
M	4.2587E-01	7.3141E-01	8.0623E-01
M+	5.0493E-11	1.1843E-08	3.8596E-08
M2	5.3478E-01	2.3688E-01	1.6392E-01

P1 = 5.00E+00 N/SQ-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7775E+02	2.0836E+03	2.7185E+03
T	9.8459E+00	1.2980E+01	1.3983E+01
PMO	1.5574E+01	9.5288E+01	1.0839E+02
M	2.9226E+01	5.3084E+01	6.0551E+01
A	3.2411E+00	4.2879E+00	4.6609E+00
S	1.3924E+00	1.5251E+00	1.5795E+00
Z	1.3300E+00	1.6846E+00	1.7936E+00
GAME	8.0220E+01	8.4085E+01	8.6615E+01
U	1.0790E+01	1.5375E+00	1.5448E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.1973E-10	3.9308E-08	1.4707E-07
HF	3.7594E-02	2.9680E-02	2.7874E-02
HE+	1.5427E-29	1.4370E-22	5.5802E-21
HF++	0.	8.6443E-82	5.4555E-76
M	4.9623E-01	8.1281E-01	8.9496E-01
M+	1.1973E-10	3.9308E-08	1.4707E-07
M2	4.6418E-01	1.5751E-01	8.7167E-02

Table III. - Continued

$$p_1 = 5 \text{ N/m}^2$$

PI = 5.00E+00 N/50-M, US1= 1.60E+04 M/SEC				PI = 5.00E+00 N/50-M, US1= 1.90E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.0297E+02	2.515E+03	3.309E+03	E-	2.8814E+02	3.7319E+03	5.656E+03
H2	1.0144E+01	1.3912E+01	1.5956E+01	Y	1.1105E+01	2.4481E+01	3.3792E+01
HE+	1.4393E+01	1.0074E+02	1.0887E+02	RHO	1.6111E+01	7.8139E+01	8.4055E+01
HE++	3.3134E+01	6.0513E+01	6.9572E+01	M	4.6359E+01	8.4711E+01	1.0540E+02
H	3.3734E+00	4.6488E+00	5.4121E+00	A	3.8233E+00	7.3307E+00	7.8840E+00
S	1.4363E+00	1.5846E+00	1.6449E+00	S	1.5783E+00	1.7366E+00	1.7967E+00
Z	1.3939E+00	1.7948E+00	1.9051E+00	Z	1.6175E+00	1.9509E+00	1.9911E+00
GAME	8.0474E-01	8.6551E-01	9.6357E-01	GAME	8.1722E-01	1.1252E+00	9.2384E-01
U	1.1559E+01	1.6471E+00	1.7561E+00	U	1.2839E+01	2.8552E+00	3.7794E+00
E-	2.7685E-10	1.5690E-07	1.8649E-06	E-	2.7761E-09	9.1576E-04	2.0717E-22
H2	3.5869E-02	2.7898E-02	2.6245E-02	HE	3.1047E-02	2.5629E-02	2.5117E-02
HE+	1.9035E-28	4.4714E-21	2.3544E-18	HE++	4.1552E-26	1.2512E-11	3.5917E-08
HE++	0.	2.1715E-76	2.0966E-64	HE++	0.	5.5097E-42	1.7751E-29
H	5.6526E-01	8.8567E-01	9.5020E-01	H	7.5813E-01	9.7208E-01	9.3388E-01
H+	2.7485E-10	1.5690E-07	1.8649E-06	H+	2.7761E-09	9.1576E-04	2.0717E-02
H2	3.9807E-01	8.6474E-02	2.3551E-02	H2	2.1082E-01	4.4122E-04	7.5092E-05

P1 = 5.00E+00 N/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.190E+02	4.116E+01	6.410E+03
T	1.149E+01	2.921E+01	1.573E+C1
RHO	1.645E+01	7.179E+01	8.595E+C1
M	5.124E+01	9.244E+01	1.168E+02
A	4.002E+00	7.608E+00	8.144E+02
S	1.428E+00	1.771E+00	1.829E+00
Z	1.687E+00	1.961E+00	2.079E+00
GAME	8.247E-01	1.009E+00	8.801E-C1
U	1.458E+01	1.345E+00	1.654E+C1

SPECIES ----- MOLE FRACTIONS -----

E-	6.207E-09	6.121E-03	1.529E-02
HE	2.952E-02	7.548E-02	2.443E-02
HE+	2.031E-05	1.405E-09	1.004E-07
HE++	5.780E-09	9.274E-14	8.089E-27
H	8.167E-01	9.621E-01	9.957E-C1
M+	6.207E-09	6.121E-03	3.939E-02
M2	1.540E-01	1.419E-04	4.052E-04

P1 = 5.00E+00 N/50-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.297E+02	2.964E+03	4.059E+03
T	1.044E+01	1.550E+01	2.228E+01
RHO	1.504E+01	1.008E+02	9.348E+01
M	3.729E+01	6.835E+01	8.124E+01
A	3.512E+00	5.258E+00	7.072E+00
S	1.482E+00	1.642E+00	1.711E+00
Z	1.462E+00	1.894E+00	1.948E+00
GAME	8.079E-01	9.411E-01	1.117E+00
U	1.232E+01	1.838E+00	2.363E+00

SPECIES ----- MOLE FRACTIONS -----

E-	5.813E-10	1.176E-06	2.729E-04
HE	3.419E-02	2.639E-02	2.566E-02
HE+	5.444E-28	6.733E-19	6.693E-13
HE++	0.	3.452E-68	1.547E-66
H	6.321E-01	9.443E-01	9.727E-01
M+	5.813E-10	1.176E-06	2.729E-04
M2	3.336E-01	2.922E-02	1.073E-03

P1 = 5.00E+00 N/50-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.524E+02	4.548E+03	7.121E+03
T	1.197E+01	2.271E+01	1.902E+C1
RHO	1.647E+01	7.053E+01	8.799E+C1
M	5.642E+01	1.078E+02	1.284E+C2
A	4.214E+00	7.746E+00	8.412E+C0
S	1.479E+00	1.803E+00	1.867E+C0
Z	1.770E+00	1.585E+00	2.073E+C0
GAME	9.379E-01	9.336E-01	8.741E-C1
U	1.532E+01	1.613E+00	1.567E+C0

SPECIES ----- MOLE FRACTIONS -----

E-	1.404E-08	1.811E-07	5.976E-02
HE	2.823E-02	2.517E-02	2.410E-02
HE+	2.149E-24	1.567E-08	5.852E-C7
HE++	3.477E-84	9.589E-32	5.145E-24
H	8.707E-01	9.394E-01	8.652E-01
M+	1.404E-08	1.811E-07	5.976E-02
M2	1.011E-01	1.064E-04	3.674E-05

P1 = 5.00E+00 N/50-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.581E+02	3.369E+03	4.875E+C3
T	1.076E+01	1.920E+01	2.945E+C1
RHO	1.562E+01	9.028E+01	8.438E+01
M	4.170E+01	7.643E+01	9.374E+01
A	3.642E+00	6.497E+00	7.646E+00
S	1.529E+00	1.694E+00	1.760E+00
Z	1.534E+00	1.943E+00	1.961E+00
GAME	8.119E-01	1.131E+00	1.012E+00
U	1.308E+01	2.266E+00	2.971E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.297E-09	3.765E-05	6.098E-03
HE	3.258E-02	2.578E-02	2.548E-02
HE+	7.345E-27	4.258E-14	1.596E-09
HE++	0.	1.702E-64	2.613E-64
H	6.946E-01	9.707E-01	9.621E-01
M+	1.297E-09	3.765E-05	6.098E-03
M2	2.707E-01	2.445E-04	1.490E-04

Table III. - Continued

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SQ-M, US1= 2.20E+04 M/SEC				P1 = 5.00E+00 N/SQ-M, US1= 2.50E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	5.6257E-08	3.5613E-02	6.0877E-02	E-	3.2481E-04	8.8556E-02	1.4061E-01
HE	2.7019E-02	2.4731E-02	2.3567E-02	HE	2.5639E-02	2.3370E-02	2.2030E-02
HE+	6.9254E-23	7.9280E-08	1.3481E-06	HE+	2.1242E-13	1.2033E-06	5.6114E-06
HE++	1.1644E-83	6.1077E-30	1.0849E-23	HE++	2.6400E-49	4.9334E-24	1.6687E-21
H	9.1940E-01	9.0394E-01	8.1465E-01	H	9.7248E-01	7.9950E-01	6.9679E-01
H+	5.6257E-08	3.5613E-02	6.0877E-02	H+	3.2481E-04	8.8556E-02	1.4061E-01
H2	5.3785E-02	1.0592E-04	2.8589E-05	H2	2.5001E-04	1.8216E-05	1.3042E-05
P	3.8657E+02	4.9862E+03	7.7203E+03	P	4.8470E+02	4.6307E+02	6.9278E+01
T	1.2661E+01	3.5104E+01	4.0908E+01	T	2.0860E+01	4.0091E+01	4.4225E+01
RHO	1.6497E+01	7.1685E+01	8.8957E+01	RHO	1.1964E+01	5.2984E+01	6.9038E+01
M	6.1824E+01	1.1284E+02	1.4020E+02	M	7.9282E+01	1.4222E+02	1.7324E+02
A	4.5044E+00	8.0080E+00	8.6709E+00	A	6.8471E+00	8.5832E+00	9.7648E+00
S	1.7298E+00	1.8332E+00	1.8923E+00	S	1.8596E+00	1.9411E+00	2.0024E+00
Z	1.8508E+00	2.0212E+00	2.1215E+00	Z	1.9502E+00	2.1394E+00	2.2690E+00
GAME	8.6586E-01	9.1774E-01	8.6624E-01	GAME	1.1525E+00	8.5892E-01	8.5539E-01
U	1.6049E+01	3.6944E+00	3.6494E+00	U	1.7791E+01	3.9467E+00	3.7295E+00

P1 = 5.00E+00 N/SQ-M, US1= 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2105E+02	5.1599E+03	7.9661E+03
T	1.3972E+01	3.7534E+01	4.2421E+01
RHO	1.5701E+01	6.7558E+01	8.6444E+01
M	6.7454E+01	1.2279E+02	1.5191E+02
A	5.0794E+00	8.2304E+00	8.9076E+00
S	1.7796E+00	1.8667E+00	1.9263E+00
Z	1.9193E+00	2.0572E+00	2.1713E+00
GAME	9.6211E-01	8.8503E-01	8.6142E-01
U	1.6724E+01	3.8900E+00	2.7099E+00

SPECIES	MOLE FRACTIONS
E-	4.3360E-07
ME	2.6051E-02
ME+	1.1900E-20
ME++	1.9073E-75
M	9.5796E-01
M+	4.3360E-07
M2	1.5988E-02

P1 = 5.00E+00 N/SQ-M, US1= 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5405E+02	4.9253E+03	7.5037E+03
T	1.6901E+01	3.8948E+01	4.3433E+01
RHO	1.3801E+01	6.0718E+01	7.7017E+01
M	7.3271E+01	1.3249E+02	1.6272E+02
A	6.1403E+00	8.4073E+00	9.0954E+00
S	1.8232E+00	1.9039E+00	1.9642E+00
Z	1.9466E+00	2.0966E+00	2.2020E+00
GAME	1.1461E+00	8.6562E-01	8.5790E-01
U	1.7286E+01	3.9584E+00	3.7271E+00

SPECIES	MOLE FRACTIONS
E-	1.3698E-05
ME	2.5686E-02
ME+	7.4703E-17
ME++	1.7247E-61
M	9.7256E-01
M+	1.3698E-05
M2	1.7584E-03

P1 = 5.00E+00 N/SQ-M, US1= 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2132E+02	4.5364E+03	6.6796E+03
T	2.4622E+01	4.1199E+01	4.5085E+01
RHO	1.0830E+01	5.0385E+01	6.3843E+01
M	8.5539E+01	1.5253E+02	1.8445E+02
A	7.1309E+00	8.7730E+00	9.4527E+00
S	1.8902E+00	1.9758E+00	2.0384E+00
Z	1.9550E+00	2.1853E+00	2.3206E+00
GAME	1.0964E+00	8.9485E-01	8.9403E-01
U	1.8326E+01	3.9400E+00	3.7393E+00

SPECIES	MOLE FRACTIONS
E-	2.6189E-03
ME	2.5575E-02
ME+	3.9532E-11
ME++	6.9107E-41
M	9.6913E-01
M+	2.6189E-03
M2	6.1274E-05

P1 = 5.00E+00 N/SQ-M, US1= 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5920E+02	4.6659E+03	6.7873E+03
T	2.7581E+01	4.2368E+01	4.4107E+01
RHO	1.0303E+01	4.9269E+01	6.1927E+01
M	9.2085E+01	1.6377E+02	1.9694E+02
A	7.2119E+00	8.9858E+00	9.6731E+00
S	1.9174E+00	2.0084E+00	2.0726E+00
Z	1.9678E+00	2.2352E+00	2.3771E+00
GAME	9.5828E-01	8.5262E-01	8.5373E-01
U	1.8932E+01	3.9599E+00	3.7744E+00

SPECIES	MOLE FRACTIONS
E-	9.7570E-03
ME	2.5410E-02
ME+	8.8759E-10
ME++	4.0379E-36
M	9.5645E-01
M+	9.0470E-03
M2	2.7976E-05

Table III. - Continued

$$p_1 = 5 \text{ N/m}^2$$

p1 = 5.00E+00 N/SQ-M, US1= 2.80E+04 M/SEC				p1 = 5.00E+00 N/SQ-M, US1= 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0227E+02	4.9485E+03	7.1445E+03	P	7.8734E+02	6.9056E+03	9.7072E+03
T	2.9784E+01	2.3489E+01	4.7251E+01	T	3.5244E+01	4.8510E+01	5.2274E+01
RHO	1.0137E+01	4.9697E+01	6.2013E+01	RHO	1.0388E+01	5.6191E+01	6.8382E+01
M	9.8924E+01	1.7592E+02	2.1063E+02	M	1.2901E+02	2.3115E+02	2.7370E+02
A	7.3191E+00	9.2181E+00	9.9206E+00	A	7.9344E+00	1.0248E+01	1.1057E+01
S	1.9430E+00	2.0399E+00	2.1060E+00	S	2.0411E+00	2.1651E+00	2.2405E+00
Z	1.9481E+00	2.2890E+00	2.4383E+00	Z	2.1097E+00	2.5334E+00	2.7146E+00
GAME	9.0463E-01	8.5166E-01	8.5424E-01	GAME	8.4664E-01	8.463E-01	8.6131E-01
U	1.9509E+01	3.9986E+00	3.8262E+00	U	2.2502E+01	4.2412E+00	4.1208E+00
SPECIES				SPECIES			
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
F-	1.9198E-02	1.4812E-01	2.0024E-01	F-	1.5724E-02	2.3028E-01	2.8193E-01
ME	2.5149E-02	2.1838E-02	2.0490E-02	ME	2.3699E-02	1.9711E-02	1.8343E-02
ME+	5.9874E-09	5.1986E-06	1.4614E-05	ME+	2.3378E-07	2.5896E-05	6.9241E-05
HF++	5.3593E-33	9.9558E-22	8.3402E-20	HF++	3.5113E-27	3.9791E-19	1.7059E-17
H	9.3644E-01	6.8192E-01	5.7898E-01	H	8.2484E-01	5.1973E-01	4.1780E-01
H+	1.9198E-02	1.4811E-01	2.0024E-01	H+	7.5725E-02	2.3025E-01	2.8186E-01
H2	1.7253E-05	9.5488E-06	6.9487E-06	H2	5.4436E-06	4.8438E-06	3.2528E-06

P1 = 5.00E+00 N/50-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.439E+02	5.353E+02	7.654E+03
T	2.150E+01	4.402E+01	4.846E+01
PHO	1.011E+01	5.090E+01	6.307E+01
M	1.060E+02	1.080E+02	2.252E+02
A	7.458E+00	9.463E+00	1.018E+01
S	1.967E+00	2.071E+00	2.136E+00
Z	2.017E+00	2.342E+00	2.503E+00
GAME	8.770E+01	8.515E+01	8.553E+01
U	2.032E+01	4.049E+00	3.882E+00

SPECIES ----- MOLE FRACTIONS -----

F-	3.166E-02	1.680E-01	2.211E-01
HF	2.482E-02	2.130E-02	1.994E-02
HE+	2.190E-08	8.061E-06	2.413E-05
HF++	6.081E-21	5.078E-21	3.342E-19
H	9.118E-01	6.409E-01	5.377E-01
H+	3.166E-02	1.680E-01	2.211E-01
H2	1.252E-05	8.029E-06	5.749E-06

P1 = 5.00E+00 N/50-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.898E+02	5.819E+02	8.266E+03
T	2.292E+01	4.605E+01	4.970E+01
PHO	1.025E+01	5.250E+01	6.467E+01
M	1.134E+02	2.023E+02	2.407E+02
A	7.512E+00	9.717E+00	1.046E+01
S	1.992E+00	2.102E+00	2.172E+00
Z	2.043E+00	2.406E+00	2.714E+00
GAME	8.616E+01	8.521E+01	8.569E+01
U	2.102E+01	4.110E+00	3.940E+00

SPECIES ----- MOLE FRACTIONS -----

F-	4.552E-02	1.895E-01	2.416E-01
HF	2.447E-02	2.076E-02	1.941E-02
HE+	5.742E-08	1.216E-05	3.458E-05
HF++	2.038E-29	2.355E-20	1.285E-18
H	8.844E-01	6.009E-01	4.972E-01
H+	4.552E-02	1.895E-01	2.416E-01
H2	9.547E-06	6.787E-06	4.799E-06

P1 = 5.00E+00 N/50-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.921E+02	8.169E+02	1.140E+04
T	3.715E+01	5.096E+01	5.496E+01
PHO	1.099E+01	6.079E+01	7.278E+01
M	1.456E+02	2.620E+02	3.093E+02
A	8.257E+00	1.080E+01	1.164E+01
S	2.090E+00	2.229E+00	2.309E+00
Z	2.183E+00	2.669E+00	2.869E+00
GAME	8.406E+01	8.584E+01	8.671E+01
U	2.400E+01	4.396E+00	4.306E+00

SPECIES ----- MOLE FRACTIONS -----

F-	1.069E-01	2.491E-01	3.203E-01
HF	2.289E-02	1.868E-02	1.729E-02
HE+	6.418E-07	5.156E-05	1.523E-04
HF++	1.472E-25	5.256E-18	2.078E-16
H	7.632E-01	4.420E-01	3.420E-01
H+	1.069E-01	2.491E-01	3.203E-01
H2	4.716E-06	3.394E-06	2.116E-06

P1 = 5.00E+00 N/50-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.003E+03	9.473E+02	1.279E+04
T	3.884E+01	5.345E+01	5.783E+01
PHO	1.141E+01	4.369E+01	7.589E+01
M	1.632E+02	2.940E+02	3.474E+02
A	8.580E+00	1.132E+01	1.238E+01
S	2.140E+00	2.294E+00	2.380E+00
Z	2.264E+00	2.811E+00	3.029E+00
GAME	8.281E+01	8.435E+01	8.747E+01
U	2.550E+01	4.571E+00	4.517E+00

SPECIES ----- MOLE FRACTIONS -----

F-	1.246E-01	3.055E-01	3.564E-01
HF	2.204E-02	1.768E-02	1.624E-02
HE+	1.443E-06	9.832E-05	2.628E-04
HF++	2.378E-17	5.784E-17	2.396E-15
H	1.005E-01	3.693E-01	2.709E-01
H+	1.246E-01	3.055E-01	3.564E-01
H2	3.550E-06	2.298E-06	1.288E-06

Table III. - Continued

$$p_1 = 5 \text{ N/m}^2$$

P ₁ = 5.00E+00 N/SQ-M, US ₁ = 3.80E+04 M/SEC				P ₁ = 5.00E+00 N/SQ-M, US ₁ = 4.40E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK		MOVING SHOCK		STANDING SHOCK	
REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK	
SPECIES		SPECIES		SPECIES		SPECIES	
MOLE FRACTIONS		MOLE FRACTIONS		MOLE FRACTIONS		MOLE FRACTIONS	
E-	1.7028E-01	3.4134E-01	3.9002E-01	E-	2.6094E-01	4.3021E-01	4.7090E-01
HE	2.1272E-02	1.6705E-02	1.5121E-02	HE	1.9935E-02	1.3312E-02	8.2552E-03
HE+	2.8808E-04	1.8375E-04	5.1971E-04	HE+	1.4862E-05	1.2979E-03	5.3114E-03
HE++	3.7976E-23	5.7870E-16	7.7496E-14	HE++	1.7391E-20	6.7829E-13	1.9638E-10
H	6.3814E-01	3.0041E-01	2.0484E-01	H	4.5914E-01	1.2626E-01	4.9940E-01
H+	1.7028E-01	2.4115E-01	3.8900E-01	H+	2.6094E-01	4.2892E-01	4.6559E-01
H2	2.7111E-06	1.4787E-04	7.0143E-07	H2	1.1877E-06	2.2447E-07	3.1410E-08
P	4.0391E+01	5.6037E+01	6.1021E+01	P	1.5152E+03	1.6310E+04	2.2816E+04
Y	1.1019E+01	6.6946E+01	7.8888E+01	Y	4.4441E+01	6.5332E+01	7.5464E+01
PHC	1.8183E+02	3.2569E+02	3.8830E+02	PHC	1.2864E+01	7.2946E+01	8.2037E+01
M	8.9170E+00	1.2013E+01	1.3139E+01	M	2.6372E+02	4.4494E+02	5.2862E+02
A	2.1911E+00	2.3604E+00	2.4521E+03	A	9.9564E+00	1.4213E+01	1.6282E+01
S	2.3902E+00	2.5604E+00	3.1768E+00	S	2.3523E+00	2.5617E+00	2.6708E+00
Z	8.3743E-01	8.6991E-01	8.8496E-01	Z	2.6385E+00	3.4223E+00	3.6855E+00
GAME	2.0133E+01	4.7736E+00	4.7650E+00	GAME	8.4140E-01	9.0343E-01	9.5319E-01
U				U	3.1313E+01	5.5501E+00	5.8961E+00

P1 = 5.00E+00 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.244E+03	1.275E+04	1.766E+04
T	4.185E+01	5.879E+01	6.470E+01
PHO	1.219E+01	4.967E+01	8.119E+01
M	2.014E+02	3.663E+02	4.317E+02
A	9.255E+00	1.267E+01	1.399E+01
S	2.744E+00	2.427E+00	2.524E+00
Z	2.441E+00	3.113E+00	3.365E+00
GAME	8.382E-01	8.780E-01	8.991E-01
U	2.71E+01	4.994E+00	5.047E+00

SPECIES	MOLE FRACTIONS
F-	2.0134E-01
HE	2.0473E-02
HE+	2.213E-06
HE++	3.556E-27
H	5.748E-01
M+	2.0133E-01
M2	2.0750E-06
F-	3.7371E-01
HE	1.571E-02
HE+	3.4330E-04
HE++	5.636E-15
H	2.3487E-01
M+	3.7337E-01
M2	8.85E-07
F-	4.206E-01
HE	1.3780E-02
HE+	1.074E-03
HE++	3.779E-13
H	1.4490E-01
M+	6.1959E-01
M2	3.3057E-07

P1 = 5.00E+00 N/50-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.377E+03	1.449E+04	2.0138E+04
T	4.326E+01	4.1830E+01	6.928E+01
PHO	1.254E+01	7.172E+01	8.282E+01
M	2.270E+02	4.047E+02	4.783E+02
A	9.600E+00	1.340E+01	1.500E+01
S	2.287E+00	2.494E+00	2.597E+00
Z	2.537E+00	3.268E+00	3.525E+00
GAME	8.396E-01	8.887E-01	9.199E-01
U	3.0017E+01	5.253E+00	5.400E+00

SPECIES	MOLE FRACTIONS
F-	2.316E-01
HE	1.949E-02
HE+	8.971E-06
HE++	2.878E-21
H	5.170E-01
M+	2.316E-01
M2	1.579E-06
F-	4.034E-01
HE	1.464E-02
HE+	6.54E-06
HE++	5.767E-14
H	1.785E-01
M+	4.027E-01
M2	4.795E-07
F-	4.679E-01
HE	1.178E-02
HE+	2.371E-03
HE++	7.007E-12
H	9.227E-02
M+	4.456E-01
M2	1.225E-07

P1 = 5.00E+03 N/50-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.658E+03	1.817E+04	2.576E+04
T	4.601E+01	6.959E+01	8.492E+01
PHO	1.314E+01	7.219E+01	7.962E+01
M	2.663E+02	4.868E+02	5.843E+02
A	1.032E+01	1.514E+01	1.820E+01
S	2.407E+00	2.620E+00	2.743E+00
Z	2.763E+00	3.568E+00	3.809E+00
GAME	8.441E-01	9.241E-01	1.024E+00
U	3.300E+01	5.928E+00	6.528E+00

SPECIES	MOLE FRACTIONS
F-	2.8924E-01
HE	1.8201E-02
HE+	2.4001E-05
HE++	1.026E-19
H	4.033E-01
M+	2.8921E-01
M2	8.775E-07
F-	4.5358E-01
HE	1.1327E-02
HE+	2.4841E-03
HE++	1.0040E-11
H	6.1510E-02
M+	4.5090E-01
M2	8.5191E-08
F-	4.8807E-01
HE	3.2770E-03
HE+	9.8493E-03
HE++	9.431E-09
H	2.0580E-02
M+	4.7822E-01
M2	4.320E-09

P1 = 5.00E+00 N/50-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.898E+03	2.003E+04	2.915E+04
T	4.740E+01	7.507E+01	1.021E+02
PHO	1.337E+01	7.2140E+01	7.362E+01
M	2.899E+02	5.3021E+02	6.492E+02
A	1.070E+01	1.628E+01	2.1230E+01
S	2.464E+00	2.692E+00	2.8174E+00
Z	2.852E+00	3.687E+00	3.8773E+00
GAME	8.473E-01	9.519E-01	1.1383E+00
U	3.448E+01	6.395E+00	7.660E+00

SPECIES	MOLE FRACTIONS
F-	3.1637E-01
HE	1.7491E-02
HE+	3.821E-05
HE++	5.6337E-19
H	1.9374E-10
M+	4.6371E-02
M2	3.1633E-01
F-	4.7278E-01
HE	8.0674E-03
HE+	5.4511E-03
HE++	1.9374E-10
H	1.0522E-06
M+	5.3869E-03
M2	4.8465E-01
F-	4.9797E-01
HE	4.7323E-04
HE+	1.2421E-02
HE++	1.0522E-06
H	5.3869E-03
M+	4.8465E-01
M2	2.1071E-10

ORIGINAL PAGE 1

Table III. - Continued

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/50-M, US1 = 5.00E+04 M/SEC				P1 = 5.00E+00 N/50-M, US1 = 5.00E+04 M/SEC			
		MOVING SHOCK		MOVING SHOCK		MOVING SHOCK	
		STANDING SHOCK	REFLECTED SHOCK	STANDING SHOCK	REFLECTED SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9648E+03	2.1829E+04	3.2844E+04	P	2.4688E+03	2.4153E+04	4.4034E+04
T	4.8841E+01	8.2610E+01	1.2524E+02	T	5.2766E+01	1.2241E+02	1.9210E+02
PHO	1.3469E+01	5.9518E+01	6.7382E+01	PHO	1.3943E+01	5.4857E+01	5.8184E+01
M	3.1462E+02	5.7487E+02	7.2148E+02	M	3.9440E+02	7.1321E+02	8.4740E+02
A	1.1102E+01	1.7830E+01	2.3896E+01	A	1.2475E+01	2.2434E+01	2.9141E+01
S	2.5218E+00	2.7544E+00	2.8814E+00	S	2.4972E+00	2.9072E+00	2.9240E+00
Z	2.9649E+00	3.8010E+00	3.8943E+00	Z	3.3172E+00	3.9648E+00	3.9357E+00
GAME	8.5119E-01	1.0125E+00	1.1707E+00	GAME	8.7924E-01	1.1718E+00	1.1728E+00
U	3.5967E+01	7.0218E+00	9.0590E+00	U	4.0342E+01	1.2178E+01	1.2564E+01
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	3.4230E-01	4.8698E-01	4.9929E-01	E-	4.1218E-01	4.9933E-01	5.0504E-01
HE	1.6804E-02	3.8493E-03	6.8440E-05	HE	1.4807E-02	4.4964E-05	1.2070E-04
HE+	6.0626E-05	9.3051E-03	1.2699E-02	HE+	2.4543E-02	1.0733E-03	2.4610E-03
HE++	3.0099E-18	4.8621E-09	7.1026E-05	HE++	5.6883E-14	5.7200E-05	1.0729E-03
M	2.9860E-01	2.2193E-02	1.4277E-03	M	1.6087E-01	1.3353E-03	1.8374E-04
M+	3.4224E-01	4.7767E-01	4.8645E-01	M+	4.1191E-01	4.8450E-01	4.8212E-01
M?	4.4224E-07	4.5924E-09	1.0651E-11	M?	1.1001E-01	7.6874E-12	7.6810E-14

P1 = 5.00E+00 N/50-M, US1 = 5.20E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1269E+03	2.3450E+04	3.6726E+04
T	5.0346E+01	9.3415E+01	1.5005E+02
RMD	1.3715E+01	6.4992E+01	6.2703E+01
M	3.4025E+02	6.2032E+02	7.9759E+02
A	1.1522E+01	1.9940E+01	2.5193E+01
S	2.5790E+00	2.8118E+00	2.9374E+00
Z	3.0005E+00	3.8624E+00	3.9035E+00
GAME	8.5598E-01	1.1020E+00	1.1103E+00
U	3.7437E+01	7.9038E+00	1.0485E+01

SPECIES	MOLE FRACTIONS	
E-	3.6695E-01	4.9514E-01
HE	1.6135E-02	1.0564E-03
HE+	9.6851E-05	1.1358E-02
HE++	1.6217E-17	1.4740E-07
H	2.4994E-01	8.6887E-03
H+	3.6688E-01	4.8327E-01
H2	2.9627E-07	5.4516E-10

P1 = 5.20E+00 N/50-M, US1 = 5.40E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7945E+03	2.4800E+04	4.0284E+04
T	4.1962E+01	1.0717E+02	1.7076E+02
RMD	1.3807E+01	4.5708E+01	4.0500E+01
M	3.6697E+02	4.4728E+02	9.7115E+02
A	1.1969E+01	2.1959E+01	2.4857E+01
S	2.4884E+00	2.9527E+00	2.9299E+00
Z	3.1982E+00	3.8864E+00	3.9221E+00
GAME	8.4205E-01	1.1541E+00	1.0770E+00
U	3.8899E+01	9.0107E+00	1.1549E+01

SPECIES	MOLE FRACTIONS	
E-	3.9028E-01	4.9827E-01
HE	1.4474E-02	2.4078E-04
HE+	1.6744E-01	1.2421E-02
HE++	6.1155E-17	3.6944E-04
H	2.0375E-01	2.2213E-02
H+	3.9012E-01	4.8964E-01
H2	1.9744E-07	5.7504E-11

P1 = 5.00E+00 N/50-M, US1 = 5.80E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6666E+03	2.7202E+04	4.7740E+04
T	5.0346E+01	1.7819E+02	2.1857E+02
RMD	1.3807E+01	5.0444E+01	5.0558E+01
M	4.2308E+02	7.4058E+02	1.0703E+03
A	1.2998E+01	2.4892E+01	3.1178E+01
S	2.7582E+00	2.5187E+00	3.0447E+00
Z	3.6362E+00	3.9148E+00	3.9472E+00
GAME	8.4104E-01	1.1458E+00	1.1650E+00
U	4.1774E+01	1.1381E+01	1.3862E+01

SPECIES	MOLE FRACTIONS	
E-	4.3252E-01	4.9555E-01
HE	1.4070E-02	2.6540E-05
HE+	4.7219E-06	1.2287E-02
HE++	4.1506E-18	5.1087E-04
H	1.2088E-01	4.7755E-04
H+	4.3252E-01	4.8545E-01
H2	5.7888E-08	1.4545E-13

P1 = 5.00E+00 N/50-M, US1 = 5.80E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8794E+03	2.8794E+04	5.1281E+04
T	5.0346E+01	1.5344E+02	2.4784E+02
RMD	1.3807E+01	4.7208E+01	5.0628E+01
M	4.5245E+02	9.0177E+02	1.0144E+03
A	1.3245E+01	2.5595E+01	3.0988E+01
S	2.8167E+00	2.5877E+00	3.1222E+00
Z	3.8721E+00	3.5080E+00	3.9041E+00
GAME	8.9453E-01	1.0022E+00	1.0165E+00
U	4.2180E+01	1.2444E+01	1.4742E+01

SPECIES	MOLE FRACTIONS	
E-	4.6194E-01	5.0103E-01
HE	1.3169E-02	1.1167E-05
HE+	5.0741E-04	1.7347E-02
HE++	2.9315E-16	2.6157E-04
H	8.4759E-02	3.3435E-04
H+	4.5013E-01	4.8783E-01
H2	2.5087E-08	4.6846E-13

Table III. - Continued

$$P_1 = 5 \text{ N/m}^2$$

P1 = 5.00E+00 N/SC-M, US1 = 6.20E+04 M/SEC				P1 = 5.00E+00 N/SC-M, US1 = 6.00E+04 M/SEC			
SPECIES	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK	SPECIES	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
E-	4.6726E-01	5.0302E-01	5.0429E-01	E-	4.9628E-01	5.0598E-01	5.0632E-01
ME	1.1742E-02	5.4122E-04	9.8696E-09	ME	1.5783E-03	2.3127E-07	3.8598E-10
ME+	1.9177E-03	6.4429E-03	8.4408E-08	ME+	1.1728E-02	6.5179E-04	8.7707E-06
ME++	5.4037E-12	6.2945E-02	1.2608E-02	ME++	8.7309E-09	1.2015E-02	1.2653E-02
M	5.3747E-02	7.4312E-04	3.2407E-08	M	5.8613E-02	6.2041E-05	1.0738E-06
M+	4.6574E-01	4.8799E-01	4.8107E-01	M+	4.8444E-01	4.8129E-01	4.8101E-01
M2	9.7384E-09	3.0690E-13	2.5761E-18	M2	4.0331E-11	9.0388E-15	2.1080E-14

P1 = 5.00E+00 N/SC-M, US1 = 6.20E+04 M/SEC			
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	3.0178E+02	2.9204E+04	5.4307E+04
T	4.1394E+01	1.4497E+02	2.7779E+02
RWD	1.5429E+01	4.4872E+01	4.9780E+01
M	4.8316E+02	8.4132E+02	1.2060E+09
A	1.4377E+01	2.6405E+01	3.6044E+01
S	2.8722E+00	3.0238E+00	2.1275E+00
Z	3.6603E+00	3.5237E+00	3.9497E+00
GAME	9.1984E-01	1.0642E+00	1.1843E+00
U	4.4558E+01	1.2319E+01	1.6503E+01

P1 = 5.00E+00 N/SC-M, US1 = 6.00E+04 M/SEC			
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	3.4894E+03	2.9544E+04	5.8402E+04
T	7.9664E+01	2.1272E+02	3.4960E+02
RWD	1.1797E+01	3.4874E+01	4.0004E+01
M	4.8094E+02	1.0139E+03	1.4750E+03
A	1.8174E+01	3.1344E+01	4.1594E+01
S	3.0211E+00	3.1257E+00	3.2360E+00
Z	2.8712E+00	3.9472E+00	3.9499E+00
GAME	1.0845E+01	1.1598E+00	1.1852E+02
U	4.8324E+01	1.6792E+01	2.0111E+01

P1 = 5.00E+00 N/50-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2080E+01	2.989E+04	5.6809E+04
T	6.4511E+01	1.8037E+07	3.0873E+02
RND	1.3944E+01	4.7085E+01	4.6587E+01
M	5.1460E+02	9.1294E+02	1.2966E+03
A	1.4288E+01	2.8111E+01	3.8012E+01
S	7.9281E+00	3.0583E+00	3.1713E+00
Z	3.7537E+00	3.4392E+00	3.9498E+00
GAME	9.5041E+01	1.1131E+00	1.1849E+00
U	4.5886E+01	1.4180E+01	1.7797E+01

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2080E+01	2.989E+04	5.6809E+04
T	6.4511E+01	1.8037E+07	3.0873E+02
RND	1.3944E+01	4.7085E+01	4.6587E+01
M	5.1460E+02	9.1294E+02	1.2966E+03
A	1.4288E+01	2.8111E+01	3.8012E+01
S	7.9281E+00	3.0583E+00	3.1713E+00
Z	3.7537E+00	3.4392E+00	3.9498E+00
GAME	9.5041E+01	1.1131E+00	1.1849E+00
U	4.5886E+01	1.4180E+01	1.7797E+01

P1 = 5.00E+00 N/50-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3993E+01	2.9840E+04	5.8241E+04
T	7.1049E+01	1.8037E+07	3.0873E+02
RND	1.3944E+01	4.7085E+01	4.6587E+01
M	5.1460E+02	9.1294E+02	1.2966E+03
A	1.4288E+01	2.8111E+01	3.8012E+01
S	7.9281E+00	3.0583E+00	3.1713E+00
Z	3.7537E+00	3.4392E+00	3.9498E+00
GAME	9.5041E+01	1.1131E+00	1.1849E+00
U	4.5886E+01	1.4180E+01	1.7797E+01

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3993E+01	2.9840E+04	5.8241E+04
T	7.1049E+01	1.8037E+07	3.0873E+02
RND	1.3944E+01	4.7085E+01	4.6587E+01
M	5.1460E+02	9.1294E+02	1.2966E+03
A	1.4288E+01	2.8111E+01	3.8012E+01
S	7.9281E+00	3.0583E+00	3.1713E+00
Z	3.7537E+00	3.4392E+00	3.9498E+00
GAME	9.5041E+01	1.1131E+00	1.1849E+00
U	4.5886E+01	1.4180E+01	1.7797E+01

Table III. - Continued

$$p_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SQ-M, US1= 4.00E+03 M/SEC				P1 = 1.00E+01 N/SQ-M, US1= 7.00E+03 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	MOLE FRACTIONS			STANDING SHOCK	MOLE FRACTIONS	
E-	1.114E+01	8.151E-44	5.653E+01	E-	3.501E+01	6.620E-14	1.124E-14
HE	2.824E+00	5.000E-02	4.949E+00	HE	8.537E+00	4.837E-02	4.880E-02
HE+	9.937E+00	1.106E-62	1.142E+01	HE+	5.506E+00	9.183E-36	2.044E-33
HE++	2.881E+00	0.	5.195E+00	HE++	0.	0.	0.
H	1.675E+00	4.071E-08	2.185E+00	H	2.585E+00	6.510E-02	1.276E-01
M+	1.047E+00	6.346E-20	1.064E+00	M+	1.125E+00	6.620E-14	1.124E-12
M2	1.000E+00	9.500E-01	1.000E+00	M2	1.033E+00	8.865E-01	8.255E-01
GAME	9.940E-01		9.647E-01	GAME	8.947E-01		8.111E-01
U	2.317E+00		1.220E+00	U	4.449E+00		1.264E+00

P1 = 1.00E+01 N/SQ-M. US1 = 8.00E+03 M/SEC

	MUOVING SHUCL	STANDING SHOCK	REFLECTED SHUCL
P	4.0005E+01	2.2432E+02	3.4782E+02
T	7.2005E+00	8.8597E+03	9.4700E+00
RHU	6.3100E+00	2.3477E+01	3.274E+01
M	8.0704E+00	1.4177E+01	1.734E+01
A	2.4032E+00	2.7809E+00	2.925E+00
S	1.1512E+00	1.1736E+00	1.2005E+00
Z	1.0178E+00	1.0786E+00	1.121E+00
U	8.3446E-01	8.0927E-01	8.076E-01
U	5.2294E+00	1.4061E+00	1.252E+00

SPECIES	MOLE FRACTIONS
L-	2.0591E-15
ME	4.9126E-02
ME+	1.1604E-38
ME++	0.
M	3.6473E-02
M+	2.0594E-15
M2	9.1590E-01

P1 = 1.00E+01 N/SQ-M. US1 = 9.00E+03 M/SEC

	MUOVING SHUCL	STANDING SHOCK	REFLECTED SHUCL
P	6.0317E+01	3.4998E+02	5.133E+02
T	7.8969E+00	9.3796E+00	1.0130E+01
RHU	7.3244E+00	3.2162E+01	4.2631E+01
M	1.1027E+01	1.8250E+01	2.1807E+01
A	2.5070E+00	2.9644E+00	3.1207E+00
S	1.1707E+00	1.2131E+00	1.243E+00
Z	1.0031E+00	1.1362E+00	1.1070E+00
U	8.1250E-01	8.0738E-01	8.084E-01
U	6.0354E+00	1.3755E+00	1.2524E+00

SPECIES	MOLE FRACTIONS
L-	6.0430E-14
ME	4.7435E-02
ME+	2.5887E-30
ME++	0.
M	2.3948E-01
M+	1.8575E-11
M2	7.1631E-01

P1 = 1.00E+01 N/SQ-M. US1 = 5.00E+03 M/SEC

	MUOVING SHUCL	STANDING SHOCK	REFLECTED SHUCL
P	1.7520E+01	4.6633E+01	1.012E+02
T	3.4703E+00	5.1580E+00	6.7783E+00
RHU	4.5267E+00	9.0380E+00	1.4807E+01
M	3.9996E+00	5.4349E+00	7.5902E+00
A	1.9490E+00	2.2250E+00	2.4533E+00
S	1.0743E+00	1.0783E+00	1.0957E+00
Z	1.0001E+00	1.0001E+00	1.004E+00
U	9.8150E-01	9.5967E-01	8.835E-01
U	3.0250E+00	1.5140E+00	1.3241E+00

SPECIES	MOLE FRACTIONS
L-	2.6073E-40
ME	5.0000E-02
ME+	3.8795E-01
ME++	0.
M	1.1106E-00
M+	6.340E-20
M2	1.2500E-01

P1 = 1.00E+01 N/SQ-M. US1 = 6.00E+03 M/SEC

	MUOVING SHUCL	STANDING SHOCK	REFLECTED SHUCL
P	2.5416E+01	8.2021E+01	1.5700E+02
T	5.0907E+00	6.8510E+00	7.9444E+00
RHU	4.9916E+00	1.1896E+01	1.9221E+01
M	5.3507E+00	7.7525E+00	1.0300E+01
A	2.2109E+00	2.452E+00	2.590E+00
S	1.1073E+00	1.1073E+00	1.1270E+00
Z	1.0001E+00	1.0001E+00	1.0280E+00
U	9.6004E-01	8.7356E-01	8.2614E-01
U	3.7264E+00	1.5622E+00	1.306E+00

SPECIES	MOLE FRACTIONS
L-	5.0289E-26
ME	4.9794E-02
ME+	1.3183E-32
ME++	0.
M	2.3421E-04
M+	6.3453E-20
M2	9.4977E-01

Table III. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SQ-M, US1 = 1.00E+04 M/SEC				P1 = 1.00E+01 N/SQ-M, US1 = 1.30E+04 M/SEC			
		MOVING SHOCK		MOVING SHOCK		MOVING SHOCK	
		STANDING SHOCK		STANDING SHOCK		STANDING SHOCK	
		REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK	

P1 = 1.00E+01 N/SG-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.2751E+01	7.2754E+02	9.9930E+02
T	8.0116E+00	1.0857E+01	1.1403E+01
MMU	9.4427E+00	5.2308E+01	6.4630E+01
M	1.6091E+01	2.7896E+01	3.2430E+01
A	2.8004E+00	3.3622E+00	3.5474E+00
S	1.2412E+00	1.3043E+00	1.3425E+00
Z	1.1148E+00	1.2812E+00	1.3506E+00
GAME	8.0177E-01	8.1269E-01	8.1711E-01
U	7.6381E+00	1.3792E+00	1.3009E+00

SPECIES	MOLE FRACTIONS
C-	2.8883E-12
HE	4.4052E-02
HE+	1.7012E-33
HE++	0.
H	2.0593E-01
M+	4.3896E-01
M2	5.3212E-10
	5.2202E-01
	1.6770E-09
	5.1914E-01
	4.4304E-01

P1 = 1.00E+01 N/SG-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5375E+02	1.6239E+03	2.1440E+03
T	9.8669E+00	1.2750E+01	1.3537E+01
MMU	1.2342E+01	8.157E+01	9.5255E+01
M	4.5500E+01	4.5959E+01	5.2653E+01
A	3.1639E+00	4.0718E+00	4.3620E+00
S	1.3527E+00	1.4644E+00	1.5148E+00
Z	1.2627E+00	1.5617E+00	1.6628E+00
GAME	8.0350E-01	8.3264E-01	8.4534E-01
U	9.9910E+00	1.5122E+00	1.4871E+00

SPECIES	MOLE FRACTIONS
C-	8.8200E-11
HE	3.9600E-02
HE+	1.3240E-29
HE++	0.
H	4.1601E-01
M+	8.8200E-11
M2	5.4459E-01
	1.9939E-08
	3.2017E-02
	4.4213E-23
	2.0687E-82
	7.1933E-01
	1.9939E-08
	2.4866E-01
	6.5193E-08
	3.0073E-02
	9.1940E-22
	5.0050E-79
	7.9709E-01
	6.5193E-08
	1.7283E-01

P1 = 1.00E+01 N/SG-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1144E+02	9.8177E+02	1.3231E+03
T	9.1846E+00	1.1466E+01	1.2047E+01
MMU	1.0401E+01	6.2643E+01	7.5949E+01
M	1.8997E+01	3.3438E+01	3.8598E+01
A	2.9212E+00	3.3798E+00	3.7876E+00
S	1.2761E+00	1.3550E+00	1.3971E+00
Z	1.1591E+00	1.3669E+00	1.4461E+00
GAME	8.0117E-01	8.1764E-01	8.2372E-01
U	8.4277E+00	1.4078E+00	1.3454E+00

SPECIES	MOLE FRACTIONS
C-	1.1144E-11
HE	4.3138E-02
HE+	2.5109E-31
HE++	0.
H	2.7460E-01
M+	1.1198E-11
M2	6.8240E-01
	1.9502E-09
	3.6578E-02
	1.5468E-25
	1.3248E-91
	5.3687E-01
	1.9502E-09
	4.2655E-01
	5.8065E-09
	3.4274E-02
	2.6004E-29
	1.4989E-87
	6.1692E-01
	5.8065E-09
	3.4848E-01

P1 = 1.00E+01 N/SG-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7731E+02	2.0049E+03	2.6412E+03
T	1.0191E+01	1.3504E+01	1.4589E+01
MMU	1.2100E+01	8.8990E+01	1.0171E+02
M	4.9216E+01	5.2918E+01	6.0853E+01
A	3.2937E+00	4.3642E+00	4.7551E+00
S	1.3942E+00	1.5218E+00	1.5708E+00
Z	1.3214E+00	1.6683E+00	1.7799E+00
GAME	8.0562E-01	8.4541E-01	8.7072E-01
U	1.0764E+01	1.5927E+00	1.6004E+00

SPECIES	MOLE FRACTIONS
C-	2.1992E-10
HE	3.7836E-02
HE+	2.2664E-28
HE++	0.
H	4.8656E-01
M+	2.1992E-10
M2	4.7500E-01
	6.4501E-08
	2.9471E-02
	8.6160E-22
	5.9986E-79
	8.0116E-01
	6.4501E-08
	2.7305E-07
	9.5548E-02

Table III. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/50-M, US1= 1.60E+04 M/SEC				P1 = 1.00E+01 N/50-M, US1= 1.90E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	MMU	H	P	T	MMU	H
2.0249E+02	1.0509E+01	1.3915E+01	3.3124E+01	2.8749E+02	1.1540E+01	1.5578E+01	3.8347E+01
1.0509E+01	1.4466E+01	9.4120E+01	6.0331E+01	1.1540E+01	2.4450E+01	7.5579E+01	8.4526E+01
3.3124E+01	9.4120E+01	6.0331E+01	4.7260E+00	7.5579E+01	8.4526E+01	7.3603E+00	1.7327E+00
3.4249E+00	1.4370E+00	1.3849E+00	8.0833E-01	8.4526E+01	1.365E+00	1.9495E+00	1.1365E+00
1.4370E+00	1.7773E+00	1.7773E+00	1.7773E+00	1.365E+00	2.8478E+00	3.3468E+00	3.3468E+00
1.3849E+00	8.6671E-01	8.6671E-01	1.7052E+00	7.3603E+00	1.7327E+00	1.7942E+00	1.7942E+00
8.0833E-01	1.7052E+00	1.7052E+00	1.7052E+00	1.7942E+00	1.7942E+00	1.7942E+00	1.7942E+00
1.1532E+01	1.7052E+00	1.7052E+00	1.7052E+00	1.7942E+00	1.7942E+00	1.7942E+00	1.7942E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.8750E-10	2.4153E-07	2.3672E-06	E-	4.9237E-09	6.4914E-04	1.8135E-02
HE	3.6109E-02	2.8133E-02	2.6427E-02	HE	3.1665E-02	2.5647E-02	4.5179E-02
HE+	1.0373E-27	2.1930E-20	7.4793E-18	HE+	2.6657E-25	8.6803E-12	4.0767E-06
HE++	0.5566E-01	7.7557E-73	2.9654E-64	HE++	3.0624E-90	2.4774E-42	4.5381E-29
H	5.5566E-01	8.7467E-01	9.4293E-01	H	7.4939E-01	9.7215E-01	9.3841E-01
H+	4.8750E-10	2.4153E-07	2.3672E-06	H+	4.9237E-09	6.4914E-04	1.8135E-02
H2	4.0423E-01	9.7191E-02	3.0641E-02	H2	2.1934E-01	8.9941E-04	1.2986E-04

P1 = 1.00E+01 N/50-M, US1= 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1888E+02	3.9601E+03	6.2092E+03
T	1.1955E+01	2.9400E+01	3.7802E+01
RHO	1.5901E+01	6.8769E+01	8.1203E+01
M	5.1254E+01	9.3191E+01	1.1749E+02
A	4.0775E+00	7.7250E+00	8.3030E+00
S	1.6208E+00	1.7684E+00	1.8273E+00
Z	1.6777E+00	1.9587E+00	2.0226E+00
GAME	8.2911E-01	1.0363E+00	9.0172E-01
U	1.4555E+01	3.3662E+00	3.5443E+00

SPECIES	MOLE FRACTIONS
E-	1.1089E-08
HE	2.9803E-02
ME+	1.7627E-24
HE++	1.5129E-06
H	8.0789E-01
M+	1.1089E-08
M2	1.6231E-01

P1 = 1.00E+01 N/50-M, US1= 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5169E+02	4.3744E+03	6.9017E+03
T	1.2450E+01	3.3261E+01	4.0329E+01
RHO	1.6059E+01	6.6304E+01	8.2809E+01
M	5.6409E+01	1.0245E+02	1.2882E+02
A	4.2434E+00	7.9108E+00	8.5807E+00
S	1.6767E+00	1.8002E+00	1.8507E+00
Z	1.7582E+00	1.9790E+00	2.0622E+00
GAME	8.4173E-01	9.5242E-01	8.8409E-01
U	1.5292E+01	3.7051E+00	3.6739E+00

SPECIES	MOLE FRACTIONS
E-	4.7902E-08
HE	2.8459E-02
ME+	1.8411E-23
HE++	4.2596E-03
H	6.6245E-01
M+	2.7902E-08
M2	1.0911E-01

P1 = 1.00E+01 N/50-M, US1= 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2926E+02	2.8505E+03	3.9194E+03
T	1.0836E+01	1.5997E+01	2.2228E+01
RHO	1.4508E+01	9.4863E+01	9.0598E+01
M	3.7281E+01	6.8154E+01	8.1014E+01
A	3.5739E+00	5.2892E+00	7.0438E+00
S	1.4828E+00	1.6373E+00	1.7060E+00
Z	1.4523E+00	1.8784E+00	1.9452E+00
GAME	8.1168E-01	9.3100E-01	1.1475E+00
U	1.2295E+01	1.8884E+00	2.3591E+00

SPECIES	MOLE FRACTIONS
E-	1.0828E-09
HE	3.4427E-02
ME+	8.8793E-27
HE++	0.
H	6.2291E-01
M+	1.0828E-09
M2	3.4267E-01

P1 = 1.00E+01 N/50-M, US1= 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5760E+02	3.2513E+03	4.7152E+03
T	1.1175E+01	1.9294E+01	2.9725E+01
RHO	1.5126E+01	8.6961E+01	4.0940E+01
M	4.1889E+01	7.6251E+01	9.3714E+01
A	3.7275E+00	6.4196E+00	7.7676E+00
S	1.5295E+00	1.6896E+00	1.7571E+00
Z	1.5274E+00	1.9378E+00	1.9589E+00
GAME	8.1589E-01	1.1023E+00	1.0304E+00
U	1.3054E+01	2.2723E+00	2.9998E+00

SPECIES	MOLE FRACTIONS
E-	2.3490E-09
HE	4.2809E-02
ME+	5.6744E-26
HE++	0.
H	6.8762E-01
M+	2.3290E-09
M2	2.7957E-01

Table III. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/50-M. US1= 2.20E+04 M/SEC				P1 = 1.00E+01 N/50-M. US1= 2.50E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	A	P	T	RHO	A
3.8573E+02	1.3149E+01	1.5962E+01	6.1809E+01	4.5770E+03	4.1506E+01	4.0896E+01	7.9281E+01
2.7405E-02	3.7918E-22	5.8020E-80	1.8379E+00	1.4195E+02	8.7487E+00	1.9359E+00	1.3571E+00
2.4065E-02	9.6855E-08	4.5051E-29	1.8307E+00	2.1259E+00	2.1259E+00	8.6744E-01	4.0989E+00
9.1422E-01	9.1422E-01	8.2321E-02	7.6534E-02	8.6744E-01	8.6744E-01	3.8787E+00	
3.0392E-02	3.0392E-02	1.2987E-04	4.7764E-05	4.0989E+00	4.0989E+00		
1.2987E-04	1.2987E-04						
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
C-	0.9317E-08	3.0392E-02	7.6534E-02	C-	2.5248E-04	8.2752E-02	1.3607E-01
HE	2.7405E-02	2.4065E-02	2.3678E-02	HE	2.5047E-02	2.3510E-02	2.2142E-02
HE+	3.7918E-22	9.6855E-08	1.8307E-08	HE+	1.5962E-01	1.6077E-06	8.1714E-06
HE++	5.8020E-80	4.5051E-29	5.4815E-23	HE++	1.9359E-00	2.3280E-23	1.0873E-20
H	1.8379E+00	1.8307E+00	8.2321E-02	H	9.7343E-01	8.1095E-01	7.0530E-01
H+	8.9317E-08	3.0392E-02	7.6534E-02	H+	2.3528E-04	8.2750E-02	1.3608E-01
H2	6.1002E-02	1.2987E-04	4.7764E-05	H2	4.5247E-04	3.1327E-05	2.2127E-05

PI = 1.00E+01 N/50-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.2037E+02	4.9802E+03	7.8190E+03
T	1.4360E+01	3.8400E+01	4.4110E+01
RMU	1.5343E+01	6.3801E+01	8.2042E+01
M	6.7441E+01	1.2238E+02	1.5235E+02
A	5.0845E+00	8.3716E+00	9.1030E+00
S	1.7753E+00	1.8630E+00	1.9234E+00
Z	1.9080E+00	2.0462E+00	2.1644E+00
GAME	9.4357E-01	8.949E-01	8.694E-01
U	1.6697E+01	4.0171E+00	3.8411E+00

SPECIES	MOLE FRACTIONS
E-	5.2704E-07
HE	2.6205E-02
HE+	3.5004E-20
HE++	2.9329E-73
H	9.5179E-01
M+	5.2104E-07
M2	2.2005E-02
	4.7167E-02
	2.4433E-02
	3.6287E-07
	1.7798E-26
	8.8116E-01
	4.7166E-02
	7.0543E-05
	9.7411E-02
	2.3141E-02
	3.5545E-06
	5.9659E-22
	7.8200E-01
	9.7408E-02
	3.7501E-05

PI = 1.00E+01 N/50-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2210E+02	4.4630E+03	6.6800E+03
T	2.4760E+01	4.2718E+01	4.7140E+01
RMU	1.0767E+01	4.8140E+01	6.1400E+01
M	8.5531E+01	1.5217E+02	1.8553E+02
A	7.2243E+00	8.9429E+00	9.6805E+00
S	1.8884E+00	1.9705E+00	2.0339E+00
Z	1.9537E+00	2.1702E+00	2.3070E+00
GAME	1.3801E+00	8.6267E-01	8.6135E-01
U	1.8513E+01	4.1000E+00	3.8950E+00

SPECIES	MOLE FRACTIONS
E-	1.9683E-03
HE	2.5592E-02
HE+	3.3270E-11
HE++	8.6936E-41
H	9.7031E-01
M+	1.9883E-03
M2	1.1731E-04
	1.0149E-01
	2.3037E-02
	2.7109E-06
	1.4926E-22
	7.7396E-01
	1.0149E-01
	2.4298E-05
	1.5494E-01
	2.1650E-02
	1.1340E-05
	3.6194E-20
	6.6841E-01
	1.5494E-01
	1.7478E-05

PI = 1.00E+01 N/50-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5386E+02	4.8487E+03	7.5078E+03
T	1.7011E+01	4.0212E+01	4.5315E+01
RMU	1.3727E+01	5.7851E+01	7.5007E+01
M	7.3267E+01	1.3219E+02	1.6369E+02
A	6.0896E+00	8.5645E+00	9.3087E+00
S	1.8190E+00	1.8991E+00	1.9602E+00
Z	1.9437E+00	2.0843E+00	2.2009E+00
GAME	1.1214E+00	8.7518E-01	8.6509E-01
U	1.7279E+01	4.1020E+00	3.8707E+00

SPECIES	MOLE FRACTIONS
E-	1.0792E-05
HE	2.2724E-02
HE+	6.9626E-17
HE++	2.0768E-61
H	9.7099E-01
M+	1.0792E-05
M2	3.2614E-03
	6.4474E-02
	2.3988E-02
	8.7787E-07
	2.7496E-24
	8.4702E-01
	6.4473E-02
	4.2195E-05
	1.1722E-01
	2.2630E-02
	5.6876E-06
	3.1476E-21
	7.4269E-01
	1.1722E-01
	2.8825E-05

PI = 1.00E+01 N/50-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2834E+02	4.5503E+03	6.7214E+03
T	2.7982E+01	4.3971E+01	4.8214E+01
RMU	1.0157E+01	4.6651E+01	5.9094E+01
M	9.2000E+01	1.6325E+02	1.9783E+02
A	7.3422E+00	9.1586E+00	9.9023E+00
S	1.9164E+00	2.0030E+00	2.0679E+00
Z	1.9646E+00	2.2183E+00	2.3623E+00
GAME	9.8064E-01	8.5994E-01	8.6080E-01
U	1.8903E+01	4.1163E+00	3.9227E+00

SPECIES	MOLE FRACTIONS
E-	7.6824E-03
HE	2.5450E-02
HE+	9.1366E-10
HE++	1.0194E-35
H	9.5953E-01
M+	7.4824E-03
M2	5.0946E-05
	1.2096E-01
	2.4236E-02
	4.4236E-06
	8.7306E-22
	7.3553E-01
	1.2095E-01
	1.7454E-01
	1.4197E-05

Table III. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SQ-M, US1= 2.80E+04 M/SEC				P1 = 1.00E+01 N/SQ-M, US1= 3.20E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK		MOVING SHOCK		STANDING SHOCK	
REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK		REFLECTED SHOCK	
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
P	5.9901E+02	4.8097E+03	7.03+5E+03	P	7.8482E+02	6.6233E+03	9.44+9E+03
T	3.0387E+01	4.5287E+01	4.9443E+01	T	3.6394E+01	5.0602E+01	5.4863E+01
RHO	9.9411E+00	4.6779E+01	5.8746E+01	PMU	1.0275E+01	5.2200E+01	6.3934E+01
M	9.8889E+01	1.7528E+02	2.1145E+02	M	1.2694E+02	2.3010E+02	2.7444E+02
A	7.4503E+00	9.3960E+00	1.0134E+01	A	8.0785E+00	1.0454E+01	1.1327E+01
S	1.9419E+00	2.0341E+00	2.1004E+00	S	2.0394E+00	2.1566E+00	2.2323E+00
Z	1.9824E+00	2.2703E+00	2.4214E+00	Z	2.0989E+00	2.5075E+00	2.6927E+00
GAME	9.2124E-01	8.5867E-01	8.6124E-01	GAME	8.5434E-01	8.6123E-01	8.6841E-01
U	1.9558E+01	4.1572E+00	3.9801E+00	U	2.2431E+01	4.4162E+00	4.2924E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.6628E-02	1.4111E-01	1.9485E-01	E-	7.0956E-02	2.2234E-01	2.7583E-01
HE	2.5215E-02	2.2016E-02	2.0621E-02	HE	2.3822E-02	1.9905E-02	1.8471E-02
HE+	6.8753E-09	7.0704E-06	2.3884E-05	HE+	3.1924E-07	3.5289E-05	9.7552E-05
HE++	1.5408E-32	4.9170E-21	5.0892E-19	HE++	1.8164E-26	1.9622E-18	9.4693E-17
M	4.4150E-01	6.9574E-01	5.8908E-01	M	8.3426E-01	5.3541E-01	4.2988E-01
M+	1.6628E-02	1.4111E-01	1.9485E-01	M+	7.0915E-02	2.2230E-01	2.7574E-01
M2	3.0638E-05	1.6241E-05	1.1740E-05	M2	1.1042E-05	8.2945E-06	5.5657E-06

PI = 1.00E+01 N/SU-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.8915E+02	7.8104E+03	1.1050E+04
T	5.8435E+01	5.3250E+01	5.7773E+01
RMU	1.0635E+01	5.5570E+01	6.7316E+01
M	1.4552E+02	2.6081E+02	3.1012E+02
A	8.4147E+00	1.1027E+01	1.1984E+01
S	2.0880E+00	2.2189E+00	2.3004E+00
Z	4.1711E+00	2.6395E+00	2.8428E+00
GAME	8.4725E-01	8.6507E-01	8.7430E-01
U	2.3921E+01	4.5808E+00	4.4891E+00

SPECIES	MOLE FRACTIONS
E-	3.1405E-01
HE	1.7401E-02
HE+	1.8704E-05
HE++	1.0706E-15
H	3.5469E-01
H+	3.1307E-01
H2	3.6615E-06

PI = 1.00E+01 N/SU-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0003E+03	9.1351E+03	1.2870E+04
T	4.0335E+01	5.5939E+01	6.0872E+01
RMU	1.1021E+01	5.8747E+01	7.0474E+01
M	1.6312E+02	2.9350E+02	3.4835E+02
A	6.7591E+00	1.1630E+01	1.2692E+01
S	2.1574E+00	2.2825E+00	2.3686E+00
Z	2.2499E+00	2.7789E+00	3.0004E+00
GAME	8.4438E-01	8.7016E-01	8.8242E-01
U	4.5410E+01	4.7681E+00	4.7118E+00

SPECIES	MOLE FRACTIONS
E-	2.9828E-01
HE	1.7861E-02
HE+	1.3208E-04
HE++	2.6980E-16
H	3.8550E-01
H+	2.9815E-01
H2	4.0280E-06

PI = 1.00E+01 N/SU-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4230E+02	5.1700E+03	7.5048E+03
T	3.4228E+01	4.6619E+01	5.0742E+01
RMU	9.9128E+00	4.7685E+01	5.9481E+01
M	1.0600E+02	1.8806E+02	2.2605E+02
A	7.5911E+00	9.6472E+00	1.0428E+01
S	1.9607E+00	2.0648E+00	2.1350E+00
Z	2.0069E+00	2.3257E+00	2.4852E+00
GAME	8.8534E-01	8.5840E-01	8.6237E-01
U	4.0250E+01	4.2106E+00	4.0405E+00

SPECIES	MOLE FRACTIONS
E-	2.1557E-01
HE	2.0085E-02
HE+	3.4410E-05
HE++	1.984E-18
H	5.4171E-01
H+	2.1533E-01
H2	9.7737E-06

PI = 1.00E+01 N/SU-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.8781E+02	5.6014E+03	8.0727E+03
T	3.3850E+01	4.7950E+01	5.2084E+01
RMU	9.9050E+00	4.9004E+01	6.0742E+01
M	1.1338E+02	2.0149E+02	2.4145E+02
A	7.7482E+00	9.9081E+00	1.0710E+01
S	1.9910E+00	2.0953E+00	2.1605E+00
Z	4.0340E+00	2.3838E+00	2.5517E+00
GAME	8.7150E-01	8.584E-01	8.6397E-01
U	2.0964E+01	4.2729E+00	4.1217E+00

SPECIES	MOLE FRACTIONS
E-	1.8200E-01
HE	2.0958E-02
HE+	1.6592E-05
HE++	1.1729E-19
H	6.1503E-01
H+	1.8199E-01
H2	1.1551E-05

$$p_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SO-M, US1 = 3.00E+04 M/SEC			
	MOVING SHUCK	STANDING SHOCK	REFLECTED SHUCK
P	1.5100E+03	1.5490E+04	2.1909E+04
T	4.6061E+01	6.841E+01	7.8977E+01
AMU	1.2363E+01	6.7123E+01	7.8300E+01
M	2.4360E+02	4.4288E+02	5.2950E+02
A	1.0174E+01	1.4470E+01	1.6507E+01
H	2.3449E+00	2.5413E+00	2.6509E+00
S	4.6174E+00	3.3735E+00	3.6450E+00
L	8.4759E-01	9.0781E-01	9.5326E-01
GAME	3.1405E+01	5.7857E+00	6.0665E+00
U			

P1 = 1.00E+01 N/SO-M, US1 = 4.40E+04 M/SEC			
	MOVING SHUCK	STANDING SHOCK	REFLECTED SHUCK
P	1.5100E+03	1.5490E+04	2.1909E+04
T	4.6061E+01	6.841E+01	7.8977E+01
AMU	1.2363E+01	6.7123E+01	7.8300E+01
M	2.4360E+02	4.4288E+02	5.2950E+02
A	1.0174E+01	1.4470E+01	1.6507E+01
H	2.3449E+00	2.5413E+00	2.6509E+00
S	4.6174E+00	3.3735E+00	3.6450E+00
L	8.4759E-01	9.0781E-01	9.5326E-01
GAME	3.1405E+01	5.7857E+00	6.0665E+00
U			

P1 = 1.00E+01 N/SO-M, US1 = 3.00E+04 M/SEC			
	MOVING SHUCK	STANDING SHOCK	REFLECTED SHUCK
P	1.5100E+03	1.5490E+04	2.1909E+04
T	4.6061E+01	6.841E+01	7.8977E+01
AMU	1.2363E+01	6.7123E+01	7.8300E+01
M	2.4360E+02	4.4288E+02	5.2950E+02
A	1.0174E+01	1.4470E+01	1.6507E+01
H	2.3449E+00	2.5413E+00	2.6509E+00
S	4.6174E+00	3.3735E+00	3.6450E+00
L	8.4759E-01	9.0781E-01	9.5326E-01
GAME	3.1405E+01	5.7857E+00	6.0665E+00
U			

P1 = 1.00E+01 N/SO-M, US1 = 3.00E+04 M/SEC			
	MOVING SHUCK	STANDING SHOCK	REFLECTED SHUCK
P	1.5100E+03	1.5490E+04	2.1909E+04
T	4.6061E+01	6.841E+01	7.8977E+01
AMU	1.2363E+01	6.7123E+01	7.8300E+01
M	2.4360E+02	4.4288E+02	5.2950E+02
A	1.0174E+01	1.4470E+01	1.6507E+01
H	2.3449E+00	2.5413E+00	2.6509E+00
S	4.6174E+00	3.3735E+00	3.6450E+00
L	8.4759E-01	9.0781E-01	9.5326E-01
GAME	3.1405E+01	5.7857E+00	6.0665E+00
U			

P1 = 1.00E+01 N/SO-M, US1 = 3.00E+04 M/SEC			
	MOVING SHUCK	STANDING SHOCK	REFLECTED SHUCK
P	1.5100E+03	1.5490E+04	2.1909E+04
T	4.6061E+01	6.841E+01	7.8977E+01
AMU	1.2363E+01	6.7123E+01	7.8300E+01
M	2.4360E+02	4.4288E+02	5.2950E+02
A	1.0174E+01	1.4470E+01	1.6507E+01
H	2.3449E+00	2.5413E+00	2.6509E+00
S	4.6174E+00	3.3735E+00	3.6450E+00
L	8.4759E-01	9.0781E-01	9.5326E-01
GAME	3.1405E+01	5.7857E+00	6.0665E+00
U			

P1 = 1.00E+01 N/SO-M, US1 = 3.00E+04 M/SEC			
	MOVING SHUCK	STANDING SHOCK	REFLECTED SHUCK
P	1.5100E+03	1.5490E+04	2.1909E+04
T	4.6061E+01	6.841E+01	7.8977E+01
AMU	1.2363E+01	6.7123E+01	7.8300E+01
M	2.4360E+02	4.4288E+02	5.2950E+02
A	1.0174E+01	1.4470E+01	1.6507E+01
H	2.3449E+00	2.5413E+00	2.6509E+00
S	4.6174E+00	3.3735E+00	3.6450E+00
L	8.4759E-01	9.0781E-01	9.5326E-01
GAME			

P1 = 1.00E+01 N/SU-M. US1 = 4.00E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4424E+03	1.2140E+04	1.7059E+04
T	4.3629E+01	6.1639E+01	6.8164E+01
RHO	1.1749E+01	6.4110E+01	7.5176E+01
M	2.0135E+02	3.6460E+02	4.3299E+02
A	9.4479E+00	1.2941E+01	1.4334E+01
S	4.2394E+00	2.4112E+00	2.5094E+00
Z	2.4235E+00	3.0721E+00	3.3294E+00
NAME	8.4417E-01	8.8444E-01	9.0533E-01
U	4.8419E+01	5.2042E+01	5.2674E+00

SPECIES	MOLE FRACTIONS
E-	1.4552E-01
HE	4.5525E-01
HE+	1.5834E-02
ME+	4.4159E-04
ME++	2.2899E-14
M	5.8836E-01
M+	1.9551E-01
M2	3.6481E-01

P1 = 1.00E+01 N/SU-M. US1 = 4.20E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3730E+03	1.3785E+04	1.9422E+04
T	4.5157E+01	6.4833E+01	7.2862E+01
RHO	1.2074E+01	6.5965E+01	7.6323E+01
M	2.2197E+02	4.0287E+02	4.7798E+02
A	5.8058E+00	1.3673E+01	1.5334E+01
S	4.2714E+00	2.4763E+00	2.5794E+00
Z	2.5185E+00	3.2232E+00	3.4924E+00
NAME	8.4554E-01	8.9453E-01	9.2409E-01
U	2.5914E+01	5.4766E+01	5.6213E+00

SPECIES	MOLE FRACTIONS
E-	2.4266E-01
HE	1.4942E-02
HE+	1.3047E-05
ME+	1.7192E-20
M	5.2883E-01
M+	2.2565E-01
M2	2.7150E-06

P1 = 1.00E+01 N/SU-M. US1 = 4.60E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6533E+03	1.7265E+04	2.4767E+04
T	4.8150E+01	7.2707E+01	8.7909E+01
RHO	1.2623E+01	6.7494E+01	7.4609E+01
M	4.6622E+02	4.8459E+02	5.8463E+02
A	1.0552E+01	1.5389E+01	1.8320E+01
S	2.3990E+00	2.4057E+00	2.7216E+00
Z	2.7201E+00	3.5183E+00	3.7762E+00
NAME	8.5022E-01	9.2581E-01	1.0117E+00
U	3.2692E+01	6.1529E+01	6.8957E+00

SPECIES	MOLE FRACTIONS
E-	2.8311E-01
HE	1.8347E-02
HE+	3.4711E-05
ME+	6.4611E-19
M	4.1542E-01
M+	2.8308E-01
M2	1.5204E-04

P1 = 1.00E+01 N/SU-M. US1 = 4.80E+04 M/SEC

	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8027E+03	1.9041E+04	2.7913E+04
T	4.9657E+01	7.7992E+01	1.0248E+02
RHO	1.2842E+01	4.6877E+01	7.7752E+01
M	2.8985E+02	5.2785E+02	6.7562E+02
A	1.0946E+01	1.6463E+01	2.1024E+01
S	2.4541E+00	2.6687E+00	2.7924E+00
Z	2.8269E+00	3.6505E+00	3.8596E+00
NAME	8.5340E-01	9.5199E-01	1.1131E+00
U	3.4373E+01	6.6013E+01	7.6923E+00

SPECIES	MOLE FRACTIONS
E-	3.1026E-01
HE	1.7632E-02
HE+	5.4929E-05
ME+	3.4847E-18
M	3.6197E-01
M+	3.1014E-06
M2	1.1138E-06

Table III. - Continued

$$p_1 = 10 \text{ N/m}^2$$

P1 = 1.03E+01 N/50-M, US1 = 5.00E+04 M/SEC				P1 = 1.00E+01 N/50-M, US1 = 5.60E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RMU	M	P	T	RMU	M
1.9503E+03	2.0724E+04	8.4928E+01	6.5052E+01	2.4001E+03	2.5041E+04	5.6437E+01	3.4931E+02
5.1205E+01	8.4928E+01	6.5052E+01	6.5052E+01	5.6437E+01	1.2237E+02	5.2676E+01	7.1122E+02
1.3021E+01	5.7244E+02	1.7845E+01	2.7293E+00	3.4931E+02	2.3763E+01	2.8970E+01	3.0044E+00
3.1447E+02	1.7845E+01	2.7293E+00	3.8891E+00	1.2237E+02	2.7851E+00	4.8997E+00	3.9337E+00
1.1356E+01	2.7293E+00	3.8891E+00	1.1664E+00	2.3763E+01	1.1670E+00	1.7047E+01	1.2634E+01
2.5099E+00	3.8891E+00	1.1664E+00	9.0685E+00	2.7851E+00	1.0141E+01		
2.9371E+00	9.9710E-01	7.1747E+00		4.8997E+00			
8.5739E-01				4.0213E+01			
3.5844E+01							
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	3.3609E-01	4.8147E-01	4.9459E-01	E-	4.9888E-01	5.0429E-01	5.0429E-01
HE	1.6937E-02	4.6145E-03	1.3036E-04	HE	1.2893E-04	3.8322E-06	3.8322E-06
ME+	8.6345E-05	8.6813E-03	1.2689E-02	ME+	1.2696E-02	3.8434E-03	3.8434E-03
ME++	1.4088E-17	5.1794E-09	3.7324E-05	ME++	2.9390E-05	8.8030E-03	8.8030E-03
H	3.1048E-01	3.2454E-02	2.7197E-03	H	2.5457E-03	2.8755E-04	2.8755E-04
M+	3.3601E-01	4.7278E-01	4.8544E-01	M+	4.8592E-01	4.8774E-01	4.8774E-01
M2	7.6844E-07	1.7340E-08	7.3410E-11	M2	5.4199E-11	5.1079E-13	5.1079E-13

PI = 1.00E+01 N/50-M. US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6382E+03	2.6110E+04	4.5631E+04
T	5.8590E+01	1.3799E+02	2.1709E+02
RMU	1.3238E+01	4.8565E+01	5.3130E+01
H	4.2289E+02	7.5853E+02	1.0264E+03
A	1.3289E+01	2.4921E+01	3.1514E+01
S	2.7388E+00	2.9276E+00	3.0448E+00
Z	3.4010E+00	3.8911E+00	3.9447E+00
GAME	8.8621E-01	1.1617E+00	1.1565E+00
U	4.1637E+01	1.1356E+01	1.3828E+01

SPECIES	MOLE FRACTIONS
E-	4.2664E-01
HE	1.4089E-02
HE+	6.1213E-04
HE++	1.8713E-14
H	1.3262E-01
H+	4.2603E-01
H2	1.1625E-07
	4.9950E-01
	4.8563E-05
	1.2519E-02
	2.6535E-04
	1.2104E-03
	4.8645E-01
	1.0031E-11
	5.0507E-01
	8.0480E-07
	1.1677E-03
	1.1507E-02
	1.6921E-04
	4.8149E-01
	1.5963E-13

PI = 1.00E+01 N/50-M. US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8217E+03	2.7147E+04	4.9103E+04
T	6.1075E+01	1.5352E+02	2.4659E+02
RMU	1.3148E+01	4.5307E+01	5.0494E+01
H	4.5240E+02	8.0746E+02	1.1133E+03
A	1.3698E+01	2.5918E+01	3.3809E+01
S	2.7948E+00	2.9665E+00	3.0837E+00
Z	3.5139E+00	3.9029E+00	3.9483E+00
GAME	9.0005E-01	1.1211E+00	1.1782E+00
U	4.3050E+01	1.2489E+01	1.5174E+01

SPECIES	MOLE FRACTIONS
E-	4.4506E-01
HE	1.3133E-02
HE+	1.0962E-03
HE++	1.4322E-13
H	1.4322E-03
H+	6.5763E-04
H2	4.8616E-01
	5.0037E-01
	2.2331E-05
	1.1376E-02
	1.4132E-03
	6.5763E-04
	4.8616E-01
	2.5253E-17
	5.1145E-14

PI = 1.00E+01 N/50-M. US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1198E+03	2.2379E+04	3.5088E+04
T	5.2822E+01	9.4555E+01	1.4955E+02
RMU	1.3156E+01	6.1686E+01	6.0176E+01
H	3.4010E+02	6.1802E+02	7.9438E+02
A	1.1787E+01	1.9721E+01	2.5808E+01
S	2.5664E+00	2.7863E+00	2.9144E+00
Z	3.0504E+00	3.8368E+00	3.8989E+00
GAME	8.6220E-01	1.0720E+00	1.1423E+00
U	3.7312E+01	7.9618E+00	1.0450E+01

SPECIES	MOLE FRACTIONS
E-	3.6073E-01
HE	1.6255E-02
HE+	1.1383E-04
HE++	9.3357E-17
H	2.6228E-01
H+	3.6059E-01
H2	5.3753E-07
	4.9177E-01
	1.6488E-03
	1.1383E-02
	1.0070E-07
	1.4813E-02
	4.8039E-01
	2.9477E-09
	4.9980E-01
	3.5920E-05
	1.2034E-02
	7.5373E-04
	9.9276E-04
	4.8624E-01
	7.7985E-12

PI = 1.00E+01 N/50-M. US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2871E+03	2.3793E+04	3.8650E+04
T	5.4548E+01	1.0739E+02	1.7161E+02
RMU	1.3244E+01	5.7180E+01	5.7537E+01
H	3.6671E+02	6.6419E+02	8.6909E+02
A	1.2245E+01	2.1776E+01	2.7013E+01
S	2.6234E+00	2.8383E+00	2.9616E+00
Z	3.1059E+00	3.8750E+00	3.9144E+00
GAME	8.8819E-01	1.1396E+00	1.0863E+00
U	3.8768E+01	8.9821E+00	1.1594E+01

SPECIES	MOLE FRACTIONS
E-	3.8405E-01
HE	1.5576E-02
HE+	2.1750E-04
HE++	4.9526E-16
H	2.1631E-01
H+	3.8384E-01
H2	3.4878E-07
	4.9677E-01
	4.4169E-04
	1.2400E-02
	2.0155E-06
	6.0239E-03
	4.8430E-01
	3.9284E-10
	5.0194E-01
	1.3104E-05
	8.5011E-03
	4.1792E-03
	4.9503E-04
	4.8490E-01
	1.6784E-12

Table III. - Continued

$$P_1 = 10 \text{ N/m}^2$$

P1 = 1.00E+01 N/SU-M. US1= 6.20E+04 M/SEC				P1 = 1.00E+01 N/SU-M. US1= 6.80E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0091E+03	2.8060E+04	5.2290E+04	P	3.5845E+03	2.8734E+04	5.7404E+04
T	6.4146E+01	1.6794E+02	2.7664E+02	T	6.0088E+01	2.1253E+02	3.6840E+02
RHO	1.2951E+01	4.2691E+01	4.7861E+01	RHO	1.1610E+01	3.4268E+01	3.9491E+01
H	4.8297E+02	6.5788E+02	1.2020E+03	H	5.7992E+02	1.0111E+03	1.4726E+03
A	1.4610E+01	2.6666E+01	3.5956E+01	A	1.8054E+01	3.1184E+01	4.1527E+01
S	2.8510E+00	3.0033E+00	3.1195E+00	S	3.0082E+00	3.1083E+00	3.2175E+00
Z	3.6221E+00	3.9149E+00	3.943E+00	Z	3.8542E+00	3.9454E+00	3.9494E+00
GAME	9.1939E-01	1.0818E+00	1.1835E+00	GAME	1.0562E+00	1.1597E+00	1.1851E+00
U	4.4430E+01	1.3471E+01	1.6475E+01	U	4.8258E+01	1.6353E+01	2.0094E+01
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.6104E-01	5.0190E-01	5.0644E-01	E-	4.9355E-01	5.0575E-01	5.0651E-01
HE	1.1701E-02	1.0811E-05	3.8231E-04	HE	2.2843E-03	5.7143E-07	1.5479E-09
HC	2.1031E-03	8.5321E-03	1.0838E-04	HE+	1.0692E-02	1.0503E-03	1.1600E-05
HE++	1.4622E-12	4.2288E-03	1.2552E-02	HE++	6.9637E-09	1.1623E-02	1.2647E-02
H	6.5019E-04	4.1102E-04	6.3830E-05	H	9.8656E-03	1.2087E-04	2.1402E-05
H+	4.5954E-01	4.8491E-01	4.8103E-01	H+	4.8323E-01	4.8146E-01	4.8101E-01
H2	2.3331E-04	9.6066E-13	1.8763E-14	H2	3.2402E-10	5.8279E-14	1.6535E-15

P1 = 1.00E+01 N/SU-M. US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.199E+03	2.876E+04	5.489E+04
T	6.805E+01	1.818E+02	3.069E+02
RHO	1.264E+01	4.028E+01	4.527E+01
M	5.144E+02	9.094E+02	1.292E+03
A	1.566E+01	2.791E+01	3.789E+01
S	2.905E+00	3.038E+00	3.152E+00
Z	3.718E+00	3.929E+00	3.949E+00
GAME	9.454E-01	1.091E+00	1.184E+00
U	4.576E+01	1.435E+01	1.775E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.756E-01	5.038E-01	5.062E-01
HE	9.301E-03	4.697E-06	1.149E-08
HE+	4.144E-03	4.817E-03	4.435E-05
HE++	2.000E-11	7.901E-03	1.261E-02
H	3.945E-02	2.771E-04	4.287E-05
H+	4.714E-01	4.831E-01	4.810E-01
H2	7.518E-09	4.560E-13	7.840E-13

P1 = 1.00E+01 N/SU-M. US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.392E+03	2.905E+04	5.675E+04
T	7.312E+01	1.966E+02	3.377E+02
RHO	1.221E+01	3.749E+01	4.252E+01
M	5.467E+02	9.603E+02	1.382E+03
A	1.653E+01	2.962E+01	3.975E+01
S	2.954E+00	3.073E+00	3.182E+00
Z	3.797E+00	3.940E+00	3.949E+00
GAME	9.448E-01	1.133E+00	1.185E+00
U	4.705E+01	1.532E+01	1.894E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.864E-01	5.051E-01	5.063E-01
HE	5.739E-03	1.774E-06	3.989E-09
HE+	7.420E-03	2.263E-03	2.126E-05
HE++	3.384E-10	1.042E-02	1.263E-02
H	2.132E-02	1.828E-04	2.989E-05
H+	4.790E-01	4.820E-01	4.810E-01
H2	1.869E-09	1.719E-13	3.514E-13

P1 = 1.00E+01 N/SU-M. US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.774E+03	2.794E+04	5.700E+04
T	8.941E+01	2.287E+02	3.983E+02
RHO	1.087E+01	3.094E+01	3.622E+01
M	6.138E+02	1.060E+03	1.560E+03
A	1.984E+01	3.256E+01	4.318E+01
S	3.054E+00	3.142E+00	3.249E+00
Z	3.881E+00	3.948E+00	3.949E+00
GAME	1.132E+00	1.174E+00	1.185E+00
U	4.936E+01	1.733E+01	2.115E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.976E-01	5.060E-01	5.063E-01
HE	6.168E-04	1.529E-07	6.619E-10
HE+	1.226E-02	4.265E-04	7.040E-06
HE++	1.535E-07	1.223E-02	1.265E-02
H	4.039E-03	8.160E-05	1.569E-05
H+	4.854E-01	4.811E-01	4.810E-01
H2	4.261E-11	2.127E-14	8.108E-16

Table III. - Continued

$$p_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/SM, US1 = 4.00E+03 M/SEC					P1 = 2.00E+01 N/SM, US1 = 7.00E+03 M/SEC				
MOVING SHOCK					MOVING SHOCK				
STANDING SHOCK					STANDING SHOCK				
REFLECTED SHOCK					REFLECTED SHOCK				
P	T	RHO	M	A	P	T	RHO	M	A
1.1124E+01	2.3087E+01	3.5080E+00	6.5823E+00	3.6101E+00	3.4960E+01	1.3530E+02	8.1634E+00	1.6097E+01	1.0827E+01
2.8248E+00	3.5080E+00	6.5823E+00	3.6101E+00	1.8601E+00	5.3715E+00	8.1634E+00	1.6097E+01	1.6097E+01	2.6377E+00
3.9378E+00	6.5823E+00	3.6101E+00	1.8601E+00	1.0507E+00	8.9744E+00	1.0827E+01	1.0827E+01	1.0827E+01	1.1417E+00
2.8881E+00	3.6101E+00	1.8601E+00	1.0507E+00	1.0000E+00	2.4046E+00	2.6377E+00	2.6377E+00	2.6377E+00	1.1654E+00
1.6757E+00	1.8601E+00	1.0507E+00	1.0000E+00	9.8637E-01	1.1417E+00	1.1417E+00	1.1417E+00	1.1417E+00	1.0636E+00
1.0491E+00	1.0507E+00	1.0000E+00	9.8637E-01	1.3854E+00	1.0025E+00	1.0297E+00	1.0297E+00	1.0297E+00	8.1544E-01
1.0000E+00	1.0000E+00	9.8637E-01	1.3854E+00	1.2210E+00	9.0521E-01	8.2771E-01	8.2771E-01	8.2771E-01	1.2985E+00
2.3176E+00	1.3854E+00	1.2210E+00	1.2210E+00		4.4433E+00	1.5099E+00	1.5099E+00	1.5099E+00	
SPECIES					SPECIES				
MOLE FRACTIONS					MOLE FRACTIONS				
E-	6.8471E-63	2.8819E-44	2.7388E-28		E-	7.8399E-14	1.7987E-12		
HE	5.0000E-02	5.0000E-02	4.9998E-02		HE	4.8560E-02	4.7042E-02		
HE+	1.7671E-73	1.5647E-62	3.3425E-53		HE+	2.3356E-35	8.1299E-33		
HE++	0.	0.	0.		HE++	0.	0.		
H	2.1754E-10	2.8917E-08	6.7550E-05		H	5.0327E-03	1.1955E-01		
H+	6.3460E-20	6.3460E-20	6.3460E-20		H+	7.8399E-14	1.7987E-12		
H2	9.5000E-01	9.5000E-01	9.4999E-01		H2	8.9384E-01	8.3346E-01		

PI = 2.00E+01 N/50-M. USI = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7520E+01	4.6618E+01	1.7149E+02
T	3.8703E+00	5.1592E+00	6.0000E+00
RHU	4.5267E+00	9.0335E+00	1.4000E+01
H	3.9996E+00	5.4344E+00	7.6035E+00
A	1.9449E+00	2.2268E+00	2.4761E+00
S	1.0766E+00	1.0805E+00	1.0985E+00
Z	1.0000E+00	1.0001E+00	1.0000E+00
GAME	9.8151E-01	9.6101E-01	8.9343E-01
U	3.0206E+00	1.5148E+00	1.3345E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	9.2232E-41
ME	5.0000E-02
HE+	5.4890E-61
HE+	0.
H	7.9106E-07
M+	6.3460E-20
M2	9.5000E-01

PI = 2.00E+01 N/50-M. USI = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5414E+01	8.1491E+01	1.5763E+02
T	5.0923E+00	6.9019E+00	8.1100E+00
RHU	4.9899E+00	1.1748E+01	1.8953E+01
H	5.3586E+00	7.7355E+00	1.0337E+01
A	2.4212E+00	2.4770E+00	2.6311E+00
S	1.1033E+00	1.1102E+00	1.1303E+00
Z	1.0001E+00	1.0050E+00	1.0252E+00
GAME	9.6151E-01	8.8058E-01	8.3235E-01
U	3.7200E+00	1.5812E+00	1.3310E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	2.0854E-40
ME	4.9996E-02
HE+	1.8850E-52
HE+	0.
H	1.7003E-04
M+	6.3455E-20
M2	9.4993E-01

PI = 2.00E+01 N/50-M. USI = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6553E+01	2.1851E+02	5.4303E+02
T	7.3705E+00	9.0804E+00	9.5644E+00
RHU	6.2211E+00	2.2441E+01	3.1512E+01
H	8.8641E+00	1.4114E+01	1.1352E+01
A	2.5109E+00	2.8144E+00	2.9724E+00
S	1.1550E+00	1.1766E+00	1.2038E+00
Z	1.0154E+00	1.0723E+00	1.1150E+00
GAME	8.4259E-01	8.1344E-01	8.1151E-01
U	5.2143E+00	1.4453E+00	1.2844E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	2.3019E-15
ME	4.4251E-02
HE+	2.0437E-36
HE+	0.
H	4.9973E-02
M+	2.3000E-15
M2	9.2270E-01

PI = 2.00E+01 N/50-M. USI = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.0116E+01	3.3909E+02	5.0243E+02
T	8.0698E+00	9.8561E+00	1.0473E+01
RHU	7.1696E+00	3.0502E+01	4.0609E+01
H	1.1018E+01	1.8167E+01	2.1844E+01
A	2.8180E+00	3.0030E+00	3.1691E+00
S	1.1826E+00	1.2157E+00	1.2467E+00
Z	1.0390E+00	1.1281E+00	1.1800E+00
GAME	8.1745E-01	8.1109E-01	8.1264E-01
U	6.0149E+00	1.4146E+00	1.2871E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	9.3483E-14
ME	4.8125E-02
HE+	1.5533E-35
HE+	0.
H	7.5004E-02
M+	9.3483E-14
M2	8.7887E-01

Table III. - Continued

$$p_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/30-M, US1= 1.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.5444E+01	4.9475E+02	7.1270E+02
T	8.6095E+00	1.0562E+01	1.1100E+01
RMU	0.1837E+00	3.9619E+01	5.0876E+01
M	1.3425E+01	2.2730E+01	2.6872E+01
A	2.7299E+00	3.2021E+00	3.3814E+00
S	1.2120E+00	1.2508E+00	1.2936E+00
Z	1.0717E+00	1.1944E+00	1.2552E+00
GAME	8.0845E-01	8.1279E-01	8.1619E-01
U	6.8170E+00	1.4085E+00	1.3070E+00
SPECIES	MOLE FRACTIONS		
E-	7.0942E-13	1.9105E-10	7.3874E-10
HE	4.6659E-33	4.1863E-02	3.9833E-02
HE+	2.1511E-33	8.4436E-28	3.7023E-26
HE++	0.	0.	0.
H	1.3202E-01	3.2549E-01	4.0670E-01
H+	9.0928E-13	1.9105E-10	7.3874E-10
H2	8.2120E-01	6.3265E-01	5.5471E-01

P1 = 2.00E+01 N/30-M, US1= 1.30E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3141E+02	1.2345E+03	1.6592E+03
T	9.8476E+00	1.2558E+01	1.3284E+01
RMU	1.1113E+01	6.7957E+01	8.1204E+01
M	2.2144E+01	3.9322E+01	4.5369E+01
A	3.0862E+00	3.8794E+00	4.1363E+00
S	1.3164E+00	1.4079E+00	1.4546E+00
Z	1.2008E+00	1.4465E+00	1.5302E+00
GAME	8.0540E-01	8.2853E-01	8.3741E-01
U	9.1863E+00	1.5026E+00	1.4564E+00
SPECIES	MOLE FRACTIONS		
E-	5.7676E-11	1.0826E-08	3.3611E-08
HE	4.1630E-02	3.4566E-02	3.2509E-02
HE+	1.3477E-29	2.0101E-23	3.6262E-22
HE++	0.	5.8619E-85	1.7409E-79
H	3.3448E-01	6.1735E-01	6.9962E-01
H+	5.7676E-11	1.0826E-08	3.3611E-08
H2	6.2389E-01	3.4808E-01	2.6787E-01

P1 = 2.00E+01 N/SU-M, US1= 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.2469E+01	7.0243E+02	9.7488E+02
T	9.0047E+00	1.1232E+01	1.1841E+01
MMU	9.2006E+00	1.9239E+01	6.1414E+01
M	1.6092E+01	2.7786E+01	3.2488E+01
A	2.8449E+00	3.4130E+00	3.6107E+00
S	1.2449E+00	1.3056E+00	1.3442E+00
Z	1.1087E+00	1.2701E+00	1.3402E+00
GAME	8.0524E-01	8.1655E-01	8.2139E-01
U	7.6146E+00	1.4232E+00	1.3419E+00

SPECIES	MOLE FRACTIONS
E-	4.8458E-12
ME	4.5098E-02
ME+	7.508E-32
H	0.
M+	1.4609E-01
H2	4.8458E-12
	7.508E-01

P1 = 2.00E+01 N/SU-M, US1= 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5333E+02	1.5624E+03	2.0839E+03
T	1.0207E+01	1.3247E+01	1.4139E+01
MMU	1.1975E+01	7.6181E+01	8.9342E+01
M	2.5550E+01	4.5802E+01	5.2746E+01
A	3.2143E+00	4.1442E+00	4.4541E+00
S	1.3594E+00	1.4628E+00	1.5136E+00
Z	1.2543E+00	1.4458E+00	1.6449E+00
GAME	8.0698E-01	8.3743E-01	8.5095E-01
U	9.9640E+00	1.5667E+00	1.5414E+00

SPECIES	MOLE FRACTIONS
E-	1.5940E-10
ME	3.2342E-08
ME+	3.2345E-02
H	2.9781E-22
M+	3.6436E-80
H2	7.0619E-01
	3.3421E-08
	2.6146E-01

P1 = 2.00E+01 N/SU-M, US1= 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1112E+02	9.4741E+02	1.2898E+03
T	9.4706E+00	1.1889E+01	1.2538E+01
MMU	1.0184E+01	5.8839E+01	7.1694E+01
M	1.8998E+01	3.3316E+01	3.8647E+01
A	2.9633E+00	3.6376E+00	3.8599E+00
S	1.2795E+00	1.3554E+00	1.3579E+00
Z	1.1522E+00	1.3543E+00	1.4340E+00
GAME	8.0409E-01	8.2178E-01	8.2822E-01
U	8.4037E+00	1.4549E+00	1.3904E+00

SPECIES	MOLE FRACTIONS
E-	1.8337E-11
ME	3.3394E-02
ME+	9.2297E-31
H	0.
M+	2.6423E-01
H2	1.8337E-11
	6.9237E-01

P1 = 2.00E+01 N/SU-M, US1= 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7688E+02	1.9283E+03	2.5664E+03
T	1.0554E+01	1.4067E+01	1.5247E+01
MMU	1.2709E+01	8.3033E+01	9.5304E+01
M	4.9208E+01	5.2744E+01	6.0709E+01
A	3.3481E+00	4.4437E+00	4.8548E+00
S	1.3944E+00	1.5189E+00	1.5744E+00
Z	1.3149E+00	1.6508E+00	1.7651E+00
GAME	8.0927E-01	8.5029E-01	8.7574E-01
U	1.0736E+01	1.6514E+00	1.6597E+00

SPECIES	MOLE FRACTIONS
E-	3.8453E-10
ME	3.8094E-02
ME+	1.4125E-27
H	0.
M+	4.7605E-01
H2	3.8453E-10
	4.8548E-01

Table III. - Continued

$$P_1 = 20 \text{ N/m}^2$$

$P_1 = 2.00E+01 \text{ N/50-M,}$				$US1 = 1.60E+04 \text{ M/SEC}$				$P_1 = 2.00E+01 \text{ N/50-M,}$				$US1 = 1.90E+04 \text{ M/SEC}$			
MOVING SHOCK				STANDING SHOCK				MOVING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK				REFLECTED SHOCK				REFLECTED SHOCK			
P				P				P				P			
2.0199E+02				2.3248E+03				2.8880E+02				3.4763E+03			
1.0900E+01				1.5064E+01				1.2000E+01				2.4388E+01			
1.3478E+01				8.7764E+01				1.5050E+01				7.3193E+01			
3.3113E+01				6.0136E+01				4.0335E+01				8.4338E+01			
3.4887E+00				4.8073E+00				3.9669E+00				7.3622E+00			
1.4393E+00				1.5758E+00				1.5772E+00				1.7280E+00			
1.3750E+00				1.7584E+00				1.5872E+00				1.9474E+00			
8.1214E-01				8.7248E-01				8.2579E-01				1.1412E+00			
1.1503E+01				1.7670E+00				1.3774E+01				2.8332E+00			
SPECIES				MOLE FRACTIONS				SPECIES				MOLE FRACTIONS			
E-				3.7211E-07				E-				4.5311E-04			
HE				2.8434E-02				HE				2.5675E-02			
HE+				1.0888E-19				HE+				5.7966E-12			
HE++				6.3975E-70				HE++				9.3507E-43			
H				8.6262E-01				H				9.7165E-01			
H+				3.7211E-07				H+				4.5311E-04			
H2				1.0894E-01				H2				1.7687E-03			
8.7496E-10				3.1929E-06				8.7899E-09				4.5311E-04			
3.6366E-02				2.6030E-02				3.1504E-02				2.5675E-02			
8.0968E-27				2.6200E-17				2.0154E-24				5.7966E-12			
U.				4.8072E-62				1.2303E-86				9.3507E-43			
5.4538E-01				9.3477E-01				7.3990E-01				9.7165E-01			
8.7496E-10				3.1929E-06				8.7899E-09				4.5311E-04			
4.1026E-01				3.8589E-02				2.2859E-01				1.7687E-03			

P1 = 2.00E+01 N/50-M, US1 = 2.00E+04 P/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1812E+02	3.8097E+03	6.004E+03
T	1.2440E+01	2.9527E+01	3.8874E+01
RHO	1.5352E+01	6.5965E+01	7.6644E+01
M	5.1239E+01	9.2943E+01	1.1741E+02
A	4.1505E+00	7.8305E+00	8.4620E+00
S	1.6255E+00	1.7650E+00	1.8250E+00
Z	1.6649E+00	1.9500E+00	2.0153E+00
GAME	8.3374E+01	1.0617E+00	9.1403E+01
U	1.4520E+01	3.3806E+00	3.6346E+00

SPECIES	MOLE FRACTIONS
E-	1.9703E-08
HE	3.0032E-02
ME+	1.5624E-23
ME++	1.0807E-03
H	7.9870E-01
H+	1.9703E-08
M2	1.7127E-01
	3.5464E-03
	2.5563E-02
	9.5985E-10
	9.2426E-15
	9.6685E-11
	3.5464E-03
	4.9352E-04
	3.2531E-02
	2.4610E-02
	2.9370E-07
	1.1362E-23
	9.698E-01
	3.2531E-02
	1.4200E-04

P1 = 2.00E+01 N/50-M, US1 = 2.10E+04 P/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5086E+02	4.1695E+03	6.8820E+03
T	1.2973E+01	3.3720E+01	4.1670E+01
RHO	1.5504E+01	6.2698E+01	7.7953E+01
M	5.0344E+01	1.0209E+02	1.2974E+02
A	4.3762E+00	8.0509E+00	8.7554E+00
S	1.6740E+00	1.7974E+00	1.8570E+00
Z	1.7490E+00	1.9732E+00	2.0504E+00
GAME	8.4610E+01	9.7651E-01	8.9470E+01
U	1.5250E+01	3.7736E+00	3.7835E+00

SPECIES	MOLE FRACTIONS
E-	4.7946E-08
HE	2.0660E-02
ME+	1.3509E-22
ME++	4.1305E-00
H	6.5304E-01
H+	4.7946E-08
M2	1.1776E-01
	1.1990E-02
	2.5340E-02
	1.8922E-08
	1.7092E-30
	9.5044E-01
	1.1990E-02
	2.3791E-04
	5.1732E-02
	2.4310E-02
	1.6642E-00
	9.8412E-24
	8.7122E-01
	5.1731E-02
	1.0304E-04

P1 = 2.00E+01 N/50-M, US1 = 1.70E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2870E+02	2.7370E+03	3.7856E+03
T	1.1251E+01	1.6550E+01	2.2247E+01
RHO	1.4097E+01	8.8900E+01	8.7550E+01
M	3.7269E+01	6.7942E+01	8.0821E+01
A	3.6376E+00	5.3370E+00	7.0004E+00
S	1.4438E+00	1.6320E+00	1.7004E+00
Z	1.4418E+00	1.8622E+00	1.9424E+00
GAME	8.1549E-01	9.2489E-01	1.1341E+00
U	1.2265E+01	1.9452E+00	2.3500E+00

SPECIES	MOLE FRACTIONS
E-	1.9537E-09
HE	3.4479E-02
ME+	7.3939E-26
ME++	6.5914E-14
H	6.8108E-04
H+	9.2482E-01
M	1.8622E+00
M2	1.9161E-06
	4.8295E-02
	1.9161E-06
	1.3775E-04
	1.3775E-04
	2.5741E-02
	3.2724E-13
	3.1307E-47
	9.6994E-01
	4.0433E-03

P1 = 2.00E+01 N/50-M, US1 = 1.80E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5690E+02	3.1317E+03	4.5525E+03
T	1.1615E+01	1.9497E+01	2.9923E+01
RHO	1.4624E+01	8.3268E+01	7.7774E+01
M	4.1676E+01	7.6050E+01	9.3371E+01
A	3.7959E+00	6.3404E+00	7.8770E+00
S	1.5290E+00	1.6843E+00	1.7530E+00
Z	1.5127E+00	1.9291E+00	1.9542E+00
GAME	8.2010E-01	1.0689E+00	1.0602E+00
U	1.3022E+01	2.2892E+00	3.0152E+00

SPECIES	MOLE FRACTIONS
E-	4.1390E-09
HE	3.3055E-02
ME+	4.0019E-25
ME++	6.0169E-01
H	6.7781E-01
H+	4.1390E-09
M2	2.8913E-01
	2.4355E-05
	2.5919E-02
	3.8920E-15
	2.7421E-54
	9.6315E-01
	2.4355E-05
	1.0878E-02
	3.7066E-03
	2.5500E-02
	1.2170E-09
	2.6912E-34
	9.6044E-01
	3.7066E-03
	5.4140E-04

Table III. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M. US1 = 2.20E+04 M/SEC				P1 = 2.00E+01 N/50-M. US1 = 2.50E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
P	3.8404E+02	4.5376E+03	7.2707E+03	P	4.8654E+02	4.5199E+03	6.9934E+03
T	1.3679E+01	3.6912E+01	4.3973E+01	T	2.0942E+01	4.2965E+01	4.8344E+01
RMU	1.5420E+01	6.1734E+01	7.8696E+01	RMU	1.1923E+01	4.9812E+01	6.4455E+01
M	6.1792E+01	1.1184E+02	1.4119E+02	M	7.9279E+01	1.4164E+02	1.7547E+02
A	4.6587E+00	8.2728E+00	9.0344E+00	A	6.8740E+00	8.9199E+00	9.7220E+00
S	1.7237E+00	1.8261E+00	1.8863E+00	S	1.8544E+00	1.9308E+00	1.9937E+00
Z	1.8239E+00	2.0009E+00	2.1011E+00	Z	1.9486E+00	2.1119E+00	2.2444E+00
GAME	8.6995E-01	9.2981E-01	8.8421E-01	GAME	1.1579E+00	8.7686E-01	8.7111E-01
U	1.5977E+01	3.9942E+00	3.8914E+00	U	1.7785E+01	4.2587E+00	4.0367E+00
REFLECTED SHOCK				REFLECTED SHOCK			
P	7.2707E+03	4.3973E+01	6.9934E+03	P	7.2707E+03	4.3973E+01	6.9934E+03
T	4.3973E+01	7.8696E+01	9.7220E+00	T	4.3973E+01	7.8696E+01	9.7220E+00
RMU	7.8696E+01	9.0344E+00	2.1011E+00	RMU	7.8696E+01	9.0344E+00	2.1011E+00
M	1.4119E+02	1.8863E+00	8.8421E-01	M	1.4119E+02	1.8863E+00	8.8421E-01
A	9.0344E+00	2.1011E+00	3.8914E+00	A	9.0344E+00	2.1011E+00	3.8914E+00
S	1.8863E+00	2.1011E+00	3.8914E+00	S	1.8863E+00	2.1011E+00	3.8914E+00
Z	2.1011E+00	3.8914E+00	3.8914E+00	Z	2.1011E+00	3.8914E+00	3.8914E+00
GAME	8.8421E-01	3.8914E+00	3.8914E+00	GAME	8.8421E-01	3.8914E+00	3.8914E+00
U	3.8914E+00	3.8914E+00	3.8914E+00	U	3.8914E+00	3.8914E+00	3.8914E+00
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.4314E-07	2.5682E-02	7.1983E-02	E-	1.7150E-04	7.6713E-02	1.3119E-01
HE	4.7414E-02	2.4987E-02	2.3795E-02	HE	2.5659E-02	2.3673E-02	2.2464E-02
ME+	2.2271E-21	1.1371E-07	2.4570E-06	ME+	1.2206E-13	2.0980E-06	1.1740E-05
HE+	1.9955E-77	3.0802E-28	2.5671E-14	HE+	1.5076E-49	1.0158E-22	6.7204E-20
M	9.0344E-01	9.2347E-01	8.3216E-01	M	9.7311E-01	8.2285E-01	7.1531E-01
M+	1.4314E-07	2.5682E-02	7.1983E-02	M+	1.7150E-04	7.6713E-02	1.3119E-01
N2	6.9150E-02	1.7618E-04	8.0144E-05	N2	6.8086E-04	5.4163E-05	3.7103E-05

PL = 2.00E+01 N/SEC

US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2079E+02	4.3982E+03	6.6906E+03
T	2.4808E+01	4.4308E+01	4.9362E+01
RMU	1.0720E+01	4.6049E+01	5.9142E+01
M	6.5524E+01	1.5182E+02	1.8609E+02
A	7.3130E+00	9.1204E+00	9.9208E+00
S	1.8804E+00	1.9652E+00	2.0293E+00
Z	1.9524E+00	2.1547E+00	2.2940E+00
GAME	1.1015E+00	8.7128E-01	8.6931E-01
U	1.8307E+01	4.2649E+00	4.0508E+00

SPECIES	MOLE FRACTIONS
E-	1.4754E-03
HE	2.5036E-02
HE+	2.3202E-02
HE++	3.6025E-04
M	6.8697E-22
M+	7.8668E-01
M2	9.5032E-02
	4.1865E-05

PL = 2.00E+01 N/SEC

US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5707E+02	4.4504E+03	6.6845E+03
T	2.8296E+01	4.5661E+01	5.0508E+01
RMU	1.0047E+01	4.4754E+01	5.6393E+01
M	9.2040E+00	1.6275E+02	1.9808E+02
A	7.4710E+00	9.3397E+00	1.0147E+01
S	1.9149E+00	1.9976E+00	2.0632E+00
Z	1.9015E+00	2.2009E+00	2.3609E+00
GAME	1.0050E+00	8.6798E-01	8.6801E-01
U	1.8808E+01	4.2869E+00	4.0808E+00

SPECIES	MOLE FRACTIONS
E-	5.9053E-03
HE	2.2712E-02
HE+	5.9145E-06
HE++	4.0834E-21
M	7.4918E-01
M+	1.1403E-01
M2	3.3611E-05

PL = 2.00E+01 N/SEC

US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1955E+02	5.7955E+03	7.6376E+03
T	1.4629E+01	3.9463E+01	4.5808E+01
RMU	1.4927E+01	5.9921E+01	7.7479E+01
M	6.7425E+01	1.2190E+02	1.5320E+02
A	5.1184E+00	8.5144E+00	9.3044E+00
S	1.7718E+00	1.8597E+00	1.9208E+00
Z	1.8955E+00	2.0348E+00	2.1486E+00
GAME	9.3203E-01	9.0412E-01	8.7824E-01
U	1.6654E+01	4.1542E+00	3.9719E+00

SPECIES	MOLE FRACTIONS
E-	6.8718E-07
HE	2.4570E-02
HE+	1.1735E-19
HE++	4.4499E-71
M	9.4490E-01
M+	8.9161E-01
M2	4.1854E-02
	1.1381E-04

PL = 2.00E+01 N/SEC

US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5354E+02	4.7532E+03	7.4827E+03
T	1.7194E+01	4.1486E+01	4.7305E+01
RMU	1.3605E+01	5.5103E+01	7.2033E+01
M	7.3260E+01	1.3184E+02	1.6466E+02
A	6.0279E+00	8.7255E+00	9.5309E+00
S	1.8103E+00	1.8945E+00	1.9505E+00
Z	1.9308E+00	2.0718E+00	2.1908E+00
GAME	1.0090E+00	8.8502E-01	8.7613E-01
U	1.7207E+01	4.2508E+00	4.0208E+00

SPECIES	MOLE FRACTIONS
E-	9.0803E-06
HE	2.4133E-02
HE+	1.1029E-06
HE++	1.0410E-23
M	8.5910E-01
M+	5.8844E-02
M2	7.3029E-05

Table III. - Continued

$$p_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M, US1 = 2.00E+04 P/SEC				P1 = 2.00E+01 N/50-M, US1 = 3.20E+04 P/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.977E+02	4.6661E+03	6.936E+03	P	7.422E+02	6.3441E+03	9.187E+03
T	3.0962E+01	4.7071E+01	5.1807E+01	T	3.7596E+01	5.2821E+01	5.7663E+01
RMU	9.7604E+00	4.4039E+01	5.5601E+01	RMU	9.9637E+00	4.8420E+01	5.9708E+01
M	9.8851E+01	1.7460E+02	2.1236E+02	M	1.2888E+02	2.2898E+02	2.7546E+02
A	7.5665E+00	9.5807E+00	1.0494E+01	A	8.2302E+00	1.0666E+01	1.1610E+01
S	1.9408E+00	2.0285E+00	2.0958E+00	S	2.0378E+00	2.1485E+00	2.2248E+00
Z	1.9779E+00	2.2510E+00	2.4045E+00	Z	2.0883E+00	2.4805E+00	2.6682E+00
GAME	9.3483E-01	8.6631E-01	8.6896E-01	GAME	8.6276E-01	8.6831E-01	8.7606E-01
U	1.9517E+01	4.3295E+00	4.1446E+00	U	2.2357E+01	4.6016E+00	4.4766E+00
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.4173E-02	1.3373E-01	1.8406E-01	E-	6.8224E-02	2.1388E-01	2.6926E-01
HE	2.5279E-02	2.2203E-02	2.0765E-02	HE	2.5344E-02	2.0110E-02	1.8604E-02
HE+	7.5901E-09	9.4672E-06	3.3420E-05	HE+	4.5124E-07	4.7431E-05	1.387E-04
HE++	3.7979E-32	2.2796E-20	2.9400E-18	HE++	9.1634E-26	9.1493E-18	5.0783E-16
H	9.4632E-01	7.1031E-01	6.0111E-01	H	8.4358E-01	5.5212E-01	4.4286E-01
H+	1.4173E-02	1.3373E-01	1.8406E-01	H+	6.8224E-02	2.1388E-01	2.6926E-01
H2	5.4445E-05	2.7770E-05	1.9459E-05	H2	1.8961E-05	1.4260E-05	9.5645E-06

P1 = 2.00E+01 N/50-M. US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.8002E+02	7.4545E+03	1.0715E+04
T	3.9010E+01	5.5684E+01	6.0813E+01
AMU	1.0001E+01	5.1321E+01	6.2591E+01
M	1.4543E+02	2.5950E+02	3.1097E+02
A	8.5813E+00	1.1255E+01	1.2208E+01
S	2.0803E+00	2.2091E+00	2.2908E+00
Z	2.1597E+00	2.6085E+00	2.8169E+00
GAME	8.5447E-01	8.7212E-01	8.8202E-01
U	2.3837E+01	4.7762E+00	4.6837E+00

SPECIES	MOLE FRACTIONS
E-	9.6826E-02
ME	2.3157E-02
HE+	1.2722E-06
HE+	4.9016E-24
M	7.4311E-01
M+	9.6825E-02
M2	1.3670E-05
	2.5246E-01
	1.9075E-02
	9.3302E-05
	1.1494E-16
	4.7600E-01
	2.5236E-01
	1.0190E-05
	3.0171E-01
	1.7502E-02
	2.5775E-04
	5.4733E-15
	3.6792E-01
	3.0171E-01
	6.3702E-06

P1 = 2.00E+01 N/50-M. US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.9508E+02	8.7069E+03	1.2455E+04
T	4.1923E+01	5.8583E+01	6.4103E+01
AMU	1.0636E+01	5.4177E+01	6.5309E+01
M	6.502E+02	2.9201E+02	3.4531E+02
A	9.303E+00	1.1873E+01	1.3010E+01
S	2.3492E+00	2.2705E+00	2.3572E+00
Z	2.2552E+00	2.7433E+00	2.9685E+00
GAME	4.5113E-01	8.7720E-01	8.8908E-01
U	2.3327E+01	4.9735E+00	4.9190E+00

SPECIES	MOLE FRACTIONS
E-	1.2759E-01
ME	4.237E-02
HE+	2.9318E-06
HE+	1.0775E-22
M	7.2244E-01
M+	1.2759E-01
M2	1.0326E-05
	2.8920E-01
	7.1099E-06
	1.8051E-02
	1.7458E-04
	1.1835E-15
	4.0355E-01
	2.9742E-01
	3.4403E-01
	4.0308E-06

P1 = 2.00E+01 N/50-M. US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4059E+02	4.9899E+03	7.3501E+03
T	3.3062E+01	4.8507E+01	5.3200E+01
AMU	5.6804E+00	4.4643E+01	5.6070E+01
M	1.6595E+02	1.8724E+02	2.2687E+02
A	7.7209E+00	9.8373E+00	1.0683E+01
S	1.9650E+00	2.0586E+00	2.1280E+00
Z	2.0002E+00	2.3043E+00	2.4661E+00
GAME	9.0321E-01	8.6578E-01	8.6942E-01
U	2.0196E+01	4.3866E+00	4.2144E+00

SPECIES	MOLE FRACTIONS
E-	2.5127E-02
ME	2.4998E-02
HE+	3.2746E-08
HE+	1.4734E-05
M	1.1755E-19
M+	7.5897E-50
M2	9.2471E-01
	6.7071E-01
	5.6117E-01
	2.0924E-01
	1.5378E-01
	2.3322E-05
	1.5379E-01
	2.0449E-01
	2.0261E-02
	4.8055E-05
	1.1193E-17
	1.6013E-05

P1 = 2.00E+01 N/50-M. US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4577E+02	5.3894E+03	7.8807E+03
T	3.4792E+01	4.9949E+01	5.4650E+01
AMU	5.7208E+00	4.5707E+01	5.7035E+01
M	1.1332E+02	2.0056E+02	2.4223E+02
A	7.8894E+00	1.0105E+01	1.0974E+01
S	1.9899E+00	2.0885E+00	2.1601E+00
Z	2.0266E+00	2.3606E+00	2.5309E+00
GAME	8.8274E-01	8.6607E-01	8.7151E-01
U	2.0902E+01	4.4486E+00	4.2541E+00

SPECIES	MOLE FRACTIONS
E-	3.7840E-02
ME	2.7671E-02
HE+	9.5170E-08
HE+	3.0146E-24
M	8.9902E-01
M+	3.7840E-02
M2	4.8893E-05
	1.7397E-01
	2.1158E-02
	2.2303E-05
	5.4849E-19
	6.3088E-01
	1.7395E-01
	1.9753E-05
	2.2455E+01
	1.5887E-02
	6.9210E-05
	4.1420E-17
	5.2144E-01
	2.2908E-01
	1.3871E-05

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M, US1= 4.40E+04 M/SEC			
	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1140E+03	1.4304E+04	1.5046E+03
T	4.3773E+01	6.7807E+01	7.1801E+01
RMU	1.0480E+01	6.7704E+01	6.1657E+01
M	1.8102E+02	3.4027E+02	4.4047E+02
A	5.2870E+00	1.3819E+01	1.6875E+01
S	2.4034E+00	2.326E+00	2.5212E+00
Z	2.3177E+00	2.8838E+00	3.3220E+00
GAME	2.5015E+01	8.8350E-01	9.1287E-01
U	2.0020E+01	5.1929E+00	6.0297E+00

P1 = 2.00E+01 N/50-M, US1= 3.80E+04 M/SEC			
	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1140E+03	1.4304E+04	1.5046E+03
T	4.3773E+01	6.7807E+01	7.1801E+01
RMU	1.0480E+01	6.7704E+01	6.1657E+01
M	1.8102E+02	3.4027E+02	4.4047E+02
A	5.2870E+00	1.3819E+01	1.6875E+01
S	2.4034E+00	2.326E+00	2.5212E+00
Z	2.3177E+00	2.8838E+00	3.3220E+00
GAME	2.5015E+01	8.8350E-01	9.1287E-01
U	2.0020E+01	5.1929E+00	6.0297E+00

P1 = 2.00E+01 N/50-M, US1= 4.40E+04 M/SEC			
	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1140E+03	1.4304E+04	1.5046E+03
T	4.3773E+01	6.7807E+01	7.1801E+01
RMU	1.0480E+01	6.7704E+01	6.1657E+01
M	1.8102E+02	3.4027E+02	4.4047E+02
A	5.2870E+00	1.3819E+01	1.6875E+01
S	2.4034E+00	2.326E+00	2.5212E+00
Z	2.3177E+00	2.8838E+00	3.3220E+00
GAME	2.5015E+01	8.8350E-01	9.1287E-01
U	2.0020E+01	5.1929E+00	6.0297E+00

P1 = 2.00E+01 N/50-M, US1= 3.80E+04 M/SEC			
	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1140E+03	1.4304E+04	1.5046E+03
T	4.3773E+01	6.7807E+01	7.1801E+01
RMU	1.0480E+01	6.7704E+01	6.1657E+01
M	1.8102E+02	3.4027E+02	4.4047E+02
A	5.2870E+00	1.3819E+01	1.6875E+01
S	2.4034E+00	2.326E+00	2.5212E+00
Z	2.3177E+00	2.8838E+00	3.3220E+00
GAME	2.5015E+01	8.8350E-01	9.1287E-01
U	2.0020E+01	5.1929E+00	6.0297E+00

P1 = 2.00E+01 N/50-M, US1= 4.40E+04 M/SEC			
	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1140E+03	1.4304E+04	1.5046E+03
T	4.3773E+01	6.7807E+01	7.1801E+01
RMU	1.0480E+01	6.7704E+01	6.1657E+01
M	1.8102E+02	3.4027E+02	4.4047E+02
A	5.2870E+00	1.3819E+01	1.6875E+01
S	2.4034E+00	2.326E+00	2.5212E+00
Z	2.3177E+00	2.8838E+00	3.3220E+00
GAME	2.5015E+01	8.8350E-01	9.1287E-01
U	2.0020E+01	5.1929E+00	6.0297E+00

P1 = 2.00E+01 N/50-M, US1= 3.80E+04 M/SEC			
	MUOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1140E+03	1.4304E+04	1.5046E+03
T	4.3773E+01	6.7807E+01	7.1801E+01
RMU	1.0480E+01	6.7704E+01	6.1657E+01
M	1.8102E+02	3.4027E+02	4.4047E+02
A	5.2870E+00	1.3819E+01	1.6875E+01
S	2.4034E+00	2.326E+00	2.5212E+00
Z	2.3177E+00	2.8838E+00	3.3220E+00
GAME	2.5015E+01	8.8350E-01	9.1287E-01
U	2.0020E+01	5.1929E+00	6.0297E+00

P1 = 2.00E+01 N/50-M, US1= 4.40E+04 M/SEC			

P1 = 2.00E+01 N/50-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.373E+03	1.6376E+04	2.3795E+04
T	5.0447E+01	7.6119E+01	9.1348E+01
KHO	1.2115E+01	6.2098E+01	6.9717E+01
M	2.6608E+02	4.8210E+02	5.8522E+02
A	1.0793E+01	1.5645E+01	1.8500E+01
S	2.3902E+00	2.5837E+00	2.6995E+00
Z	2.6953E+00	3.4645E+00	3.7363E+00
GAME	8.5671E-01	9.2869E-01	1.0028E+00
U	3.2774E+01	6.3954E+00	6.8915E+00

SPECIES	MOLE FRACTIONS
E-	4.3715E-01
HE	1.1320E-02
HE+	3.1119E-03
HE++	5.6074E-11
H	1.1439E-01
H+	4.3403E-01
H2	4.6142E-07

P1 = 2.00E+01 N/50-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7962E+03	1.8062E+04	2.6710E+04
T	5.2084E+01	8.1286E+01	1.0456E+02
KHO	1.2318E+01	6.1768E+01	6.6658E+01
M	2.8970E+02	5.2528E+02	6.4618E+02
A	1.1199E+01	1.6676E+01	2.0876E+01
S	2.4439E+00	2.6450E+00	2.7674E+00
Z	2.7998E+00	3.5973E+00	3.8334E+00
GAME	8.6003E-01	9.5102E-01	1.0873E+00
U	3.4249E+01	6.8311E+00	7.7578E+00

SPECIES	MOLE FRACTIONS
E-	4.5793E-01
HE	8.5854E-03
HE+	5.3138E-03
HE++	5.6037E-10
H	7.5553E-02
H+	4.5262E-01
H2	1.8410E-07

P1 = 2.00E+01 N/50-M, US1 = 4.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2378E+03	1.1535E+04	1.6450E+04
T	4.5514E+01	6.4716E+01	7.1918E+01
KHO	1.1508E+01	5.8831E+01	6.9573E+01
M	2.0123E+02	3.6272E+02	4.3397E+02
A	5.6497E+00	1.3220E+01	1.4687E+01
S	2.2340E+00	2.3960E+00	2.4532E+00
Z	2.4053E+00	3.0298E+00	3.2898E+00
GAME	8.5058E-01	8.9128E-01	9.1198E-01
U	2.8313E+01	5.4381E+00	5.4459E+00

SPECIES	MOLE FRACTIONS
E-	3.5639E-01
HE	1.5939E-02
HE+	5.6376E-04
HE++	9.0321E-14
H	2.7128E-01
H+	3.5582E-01
H2	3.0244E-06

P1 = 2.00E+01 N/50-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3681E+03	1.3094E+04	1.8748E+04
T	4.7180E+01	6.8071E+01	7.6782E+01
KHO	1.1614E+01	6.0577E+01	7.0703E+01
M	2.2182E+02	4.0084E+02	4.8069E+02
A	1.0019E+01	1.3954E+01	1.5608E+01
S	2.2849E+00	2.4583E+00	2.5620E+00
Z	2.4972E+00	3.1754E+00	3.4494E+00
GAME	8.5194E-01	9.0079E-01	9.2905E-01
U	2.9807E+01	5.7149E+00	5.8564E+00

SPECIES	MOLE FRACTIONS
E-	3.8591E-01
HE	1.4752E-02
HE+	9.9353E-04
HE++	7.3018E-13
H	2.1342E-01
H+	3.8492E-01
H2	1.8041E-06

Table III. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/50-M.			US1 = 5.00E+04 M/SEC			P1 = 2.00E+01 N/50-M.			US1 = 5.60E+04 M/SEC		
MOVING SHOCK			STANDING SHOCK			MOVING SHOCK			STANDING SHOCK		
REFLECTED SHOCK			REFLECTED SHOCK			REFLECTED SHOCK			REFLECTED SHOCK		
SPECIES			SPECIES			SPECIES			SPECIES		
E-			E-			E-			E-		
HE			HE			HE			HE		
HE+			HE+			HE+			HE+		
M			M			M			M		
M+			M+			M+			M+		
M2			M2			M2			M2		
P			P			P			P		
T			T			T			T		
M			M			M			M		
A			A			A			A		
S			S			S			S		
Z			Z			Z			Z		
GAMF			GAMF			GAMF			GAMF		
U			U			U			U		

P1 = 2.00E+01 N/50-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6290E+02	2.5041E+02	4.2415E+04
T	5.1580E+01	1.3774E+02	2.1730E+02
RHO	1.2705E+01	4.6720E+01	5.0938E+01
M	4.2268E+02	7.5624E+02	1.0223E+03
A	1.3482E+01	2.4789E+01	3.1247E+01
S	2.7107E+00	2.9045E+00	3.0739E+00
Z	3.3403E+00	3.8910E+00	3.0404E+00
GAMF	8.9154E-01	1.1611E+00	1.1400E+00
U	4.1402E+01	1.1588E+01	1.3709E+01

SPECIES	MOLE FRACTIONS
E-	4.1970E-01
HE	1.4103E-02
HE+	7.680E-04
HE++	7.8219E-14
H	1.4650E-01
H+	4.1862E-01
H2	2.3789E-07
	4.5885E-01
	9.5051E-05
	1.2620E-02
	1.3575E-04
	2.3427E-03
	4.8592E-01
	7.2330E-11
	5.0513E-01
	2.7787E-06
	2.0573E-03
	1.0688E-07
	3.2625E-04
	4.8185E-01
	1.1374E-12

P1 = 2.00E+01 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9118E+02	2.6005E+02	2.4029E+04
T	6.4141E+01	1.5380E+02	2.4481E+02
RHO	1.2623E+01	4.3437E+01	4.8725E+01
M	4.5223E+02	8.0477E+02	1.1070E+03
A	1.4190E+01	2.6151E+01	3.2442E+01
S	2.7789E+00	2.9444E+00	3.0421E+00
Z	3.4720E+00	3.8800E+00	3.9464E+00
GAMF	9.0395E-01	1.1223E+00	1.1714E+00
U	4.2785E+01	1.2441E+01	1.5077E+01

SPECIES	MOLE FRACTIONS
E-	4.3871E-01
HE	1.3075E-02
HE+	1.2219E-02
HE++	5.1421E-13
H	1.0991E-01
H+	4.3719E-01
H2	1.2643E-07
	4.9574E-01
	4.4947E-05
	1.1998E-02
	7.8435E-04
	1.2014E-02
	1.9883E-04
	4.8122E-01
	3.8427E-13

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

P1 = 2.00E+01 N/50-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1124E+03	2.1295E+04	3.3504E+04
T	5.5502E+01	9.6479E+01	1.4943E+02
RHO	1.2606E+01	5.0661E+01	5.7574E+01
M	3.3992E+02	6.1541E+02	7.9131E+02
A	1.2045E+01	1.9594E+01	2.5932E+01
S	2.5531E+00	2.7607E+00	2.8918E+00
Z	3.0185E+00	3.8016E+00	3.8939E+00
GAMF	8.6804E-01	1.0468E+00	1.1557E+00
U	3.7101E+01	8.0821E+00	1.0431E+01

SPECIES	MOLE FRACTIONS
E-	3.5399E-01
HE	1.6375E-02
HE+	1.8920E-04
HE++	5.1357E-16
H	2.7565E-01
H+	3.5380E-01
H2	9.8021E-07
	4.8706E-01
	2.3124E-03
	1.0840E-02
	4.0073E-04
	1.9015E-03
	4.8604E-01
	5.4710E-11
	4.9921E-01
	7.0777E-05
	1.2369E-02
	4.0073E-04
	1.9015E-03
	4.8604E-01
	5.4710E-11

P1 = 2.00E+01 N/50-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2790E+03	2.2699E+04	3.6955E+04
T	5.7349E+01	1.0816E+02	1.7284E+02
RHO	1.2690E+01	5.4435E+01	5.4721E+01
M	3.6652E+02	6.6167E+02	8.6724E+02
A	1.2534E+01	2.1564E+01	2.7294E+01
S	2.6448E+00	2.8134E+00	2.9414E+00
Z	3.1315E+00	3.8554E+00	3.9074E+00
GAMF	8.7473E-01	1.1151E+00	1.1031E+00
U	3.8634E+01	9.0084E+00	1.1672E+01

SPECIES	MOLE FRACTIONS
E-	3.7730E-01
HE	1.5670E-02
HE+	2.5795E-15
HE++	2.2973E-01
H	3.7700E-01
H+	6.5117E-07
H2	2.3094E-09
	4.9422E-01
	7.6037E-04
	1.2207E-02
	1.2175E-06
	1.0790E-02
	4.8201E-01
	5.0094E-01
	2.8023E-05
	9.9490E-03
	2.8194E-03
	9.0917E-04
	4.8535E-01
	1.0698E-11

Table III. - Continued

$$P_1 = 20 \text{ N/m}^2$$

P1 = 2.00E+01 N/SQ-M, US1= 4.20E+04 M/SEC				P1 = 2.00E+01 N/SQ-M, US1= 4.80E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9991E+03	2.4904E+04	5.7050E+04	P	3.5782E+03	2.8231E+04	5.4251E+04
T	6.7191E+01	1.5854E+02	2.7421E+02	T	8.1945E+01	2.1291E+02	3.6644E+02
PHO	1.2446E+01	4.0847E+01	4.6224E+01	PHO	1.1409E+01	3.3371E+01	3.8864E+01
H	4.8273E+02	8.5481E+02	1.1954E+03	H	5.7075E+02	1.0097E+02	1.4678E+03
A	1.4801E+01	2.6941E+01	3.5763E+01	A	1.7988E+01	3.0585E+01	4.1414E+01
S	2.8297E+00	2.9818E+00	3.0993E+00	S	2.9839E+00	3.0666E+00	3.1980E+00
Z	3.5806E+00	3.9275E+00	3.9484E+00	Z	3.8277E+00	3.9420E+00	3.9457E+00
GAME	9.2047E-01	1.1019E+00	1.1813E+00	GAME	1.0316E+00	1.1439E+00	1.1850E+00
U	4.4281E+01	1.3485E+01	1.6322E+01	U	4.8174E+01	1.6275E+01	1.9982E+01
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
E-	4.5340E-01	5.0096E-01	5.0614E-01	E-	4.9075E-01	5.2932E-01	5.0470E-01
HE	1.1624E-02	2.3341E-05	1.5608E-07	HE	3.0402E-02	1.7005E-04	6.2814E-05
HE+	2.3358E-02	1.0048E-02	2.2390E-04	HE+	1.0002E-02	1.7984E-03	2.3411E-05
HE++	4.0995E-12	2.7042E-03	1.2479E-02	HE++	6.3131E-00	1.0844E-07	1.2636E-22
H	7.7571E-02	7.6111E-04	1.2701E-04	H	1.5841E-02	2.2390E-04	4.2782E-06
H+	4.5306E-01	4.8548E-01	4.8105E-01	H+	4.8055E-01	4.8174E-01	4.8100E-01
M2	5.6871E-08	5.4974E-12	1.4397E-13	M2	1.5485E-06	3.5843E-13	1.3014E-14

P1 = 2.00E+01 M/SEC- μ US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7687E+03	2.7493E+04	5.6272E+04
T	9.0457E+01	2.2887E+02	3.9672E+02
RHO	1.0766E+01	2.0667E+01	2.6912E+01
M	6.1368E+02	1.0097E+03	1.6563E+03
A	1.9673E+01	2.2453E+01	4.2093E+01
S	3.034E+00	2.1208E+00	2.2200E+00
Z	3.8680E+00	2.5462E+00	2.9498E+00
GAME	1.1057E+00	1.3411E+00	1.1851E+00
U	4.0788E+01	1.7227E+01	2.1073E+01

SPECIES	MOL FRACTIONS
E-	4.9587E-01
HE	1.0192E-02
HE+	1.1907E-02
HF+	1.0245E-02
H	7.2482E-02
H+	4.8354E-02
H2	2.4554E-01

P1 = 2.00E+01 M/SEC- μ US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1901E+03	2.7475E+04	5.2758E+04
T	7.0548E+01	1.8289E+02	3.0502E+02
RHO	1.2221E+01	3.8594E+01	4.3796E+01
M	5.1418E+02	9.0625E+02	1.2852E+03
A	1.5680E+01	2.7925E+01	3.7765E+01
S	2.8823E+00	3.0175E+00	3.1341E+00
Z	3.6792E+00	3.6210E+00	3.9493E+00
GAME	9.4267E-01	1.0875E+00	1.1840E+00
U	4.5630E+01	1.4406E+01	1.7580E+01

SPECIES	MOL FRACTIONS
E-	4.6999E-01
HE	9.4193E-03
HE+	4.1746E-03
HF+	4.0147E-03
H	5.0595E-02
H+	4.6582E-01
H2	2.1705E-00

P1 = 2.00E+01 M/SEC- μ US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3836E+03	2.8160E+04	5.4934E+04
T	7.5719E+01	1.9741E+02	3.3653E+02
RHO	1.1073E+01	2.6263E+01	4.1230E+01
M	5.4653E+02	9.5819E+02	1.3774E+03
A	1.4677E+01	2.9365E+01	3.9683E+01
S	2.9351E+00	3.0523E+00	3.1674E+00
Z	3.7676E+00	3.9238E+00	3.9496E+00
GAME	9.7576E-01	1.1105E+00	1.1848E+00
U	4.6937E+01	1.5313E+01	1.8855E+01

SPECIES	MOL FRACTIONS
E-	4.8188E-01
HE	4.2808E-03
HE+	7.0043E-03
HF+	4.7261E-03
H	1.9951E-02
H+	4.7488E-01
H2	6.6377E-00

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table III. - Continued

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/50-M, US1 = 4.00E+03 M/SEC				P1 = 5.00E+01 N/50-M, US1 = 7.00E+03 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.112E+01	2.287E+01	5.453E+01	P	1.403E+01	1.228E+02	2.310E+02
T	2.826E+00	3.588E+00	4.031E+00	T	6.400E+00	8.253E+00	9.309E+00
PHN	3.937E+00	4.582E+00	1.141E+01	PHD	5.440E+00	1.551E+01	2.247E+01
M	2.888E+00	3.419E+00	5.105E+00	M	6.072E+00	1.258E+01	1.257E+01
A	1.47E+00	1.850E+00	2.189E+00	A	2.626E+00	2.676E+00	2.843E+00
S	1.051E+00	1.052E+00	1.009E+00	S	1.134E+00	1.144E+00	1.170E+00
Z	1.000E+00	1.000E+00	1.000E+00	Z	1.000E+00	1.000E+00	1.000E+00
GAME	0.843E-01	0.843E-01	0.843E-01	GAME	0.174E-01	8.271E-01	8.271E-01
U	2.217E+00	1.384E+00	1.212E+00	U	6.474E+00	1.554E+00	1.330E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
C-	1.724E-03	7.200E-04	7.607E-03	C-	2.052E-18	8.718E-14	3.172E-12
HE	5.000E-02	5.000E-02	4.999E-02	HE	6.901E-02	4.880E-02	4.729E-02
HE+	2.706E-71	2.474E-62	5.677E-53	HE+	2.230E-44	2.705E-34	3.147E-31
HE++	0.	0.	0.	HE++	0.	0.	0.
H	1.748E-11	1.814E-08	4.285E-05	H	2.414E-02	4.785E-02	1.081E-01
H+	4.744E-20	4.744E-20	4.245E-20	H+	2.118E-18	8.718E-14	3.172E-12
H?	5.500E-01	9.500E-01	5.499E-01	H?	9.465E-01	9.033E-01	8.465E-01

P1 = 5.00E+01 N/SEC-M, US1 = 8.00E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.420E+01	2.114E+02	3.374E+02
T	7.500E+00	9.377E+00	1.015E+01
DM	4.100E+00	2.114E+01	3.007E+01
M	8.854E+00	1.403E+01	1.738E+01
S	2.547E+00	2.850E+00	2.030E+00
Z	1.750E+00	1.111E+00	1.208E+00
NAME	1.017E+00	1.044E+00	1.104E+00
U	8.542E+01	8.105E+01	8.170E+01
	2.15E+00	1.474E+00	1.327E+00

SPECIES	MOLE FRACTIONS
F=	3.010E-1E
HE	4.433E-12
HE+	2.400E-02
HE++	7.607E-21
H	0.
M+	1.203E-01
M++	4.633E-12
H2	8.378E-01
	4.001E-11
	4.517E-02
	7.188E-29
	0.
	1.031E-01
	4.001E-11
	7.616E-11

P2 = 5.00E+01 N/SEC-M, US1 = 8.00E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.984E+01	2.274E+02	4.009E+02
T	8.200E+00	1.023E+01	1.004E+01
DM	6.983E+00	2.847E+01	3.874E+01
M	1.100E+01	1.809E+01	2.184E+01
S	2.650E+00	2.000E+00	2.228E+00
Z	1.180E+00	1.117E+00	1.252E+00
NAME	1.034E+00	1.044E+00	1.169E+00
U	8.542E+01	8.162E+01	8.180E+01
	2.080E+00	1.670E+00	1.335E+00

SPECIES	MOLE FRACTIONS
F=	1.284E-12
HE	4.877E-02
HE+	2.498E-28
HE++	0.
H	4.511E-02
M+	2.095E-01
M++	5.340E-11
H2	7.645E-01
	2.931E-10
	4.276E-02
	1.054E-26
	0.
	2.895E-01
	2.931E-10
	6.677E-01

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR.

P1 = 5.00E+01 N/SEC-M, US1 = 8.00E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.750E+01	4.409E+01	1.017E+02
T	7.874E+00	5.140E+00	6.800E+00
DM	4.574E+00	9.020E+00	1.470E+01
M	3.000E+00	5.474E+00	7.617E+00
S	1.940E+00	2.284E+00	2.502E+00
Z	1.070E+00	1.083E+00	1.102E+00
NAME	1.070E+00	1.000E+00	1.002E+00
U	8.542E+01	8.422E+01	8.056E+01
	2.02E+00	1.51E+00	1.345E+00

SPECIES	MOLE FRACTIONS
F=	2.324E-11
HE	4.548E-26
HE+	4.900E-02
HE++	2.099E-21
H	0.
M+	1.040E-02
M++	4.747E-20
H2	9.400E-01
	4.276E-17
	9.648E-01

P1 = 5.00E+01 N/SEC-M, US1 = 8.00E+02 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.410E+01	8.024E+01	1.502E+02
T	5.094E+00	4.064E+00	8.374E+00
DM	4.090E+00	1.500E+01	1.842E+01
M	3.380E+00	7.707E+00	1.028E+01
S	2.214E+00	2.563E+00	2.470E+00
Z	1.074E+00	1.144E+00	1.135E+00
NAME	1.074E+00	1.000E+00	1.021E+00
U	8.542E+01	8.422E+01	8.442E+01
	2.02E+00	1.47E+00	1.345E+00

SPECIES	MOLE FRACTIONS
F=	5.324E-12
HE	4.900E-02
HE+	2.099E-21
HE++	0.
H	4.548E-02
M+	2.095E-01
M++	5.340E-11
H2	7.645E-01
	2.931E-10
	4.276E-02
	1.054E-26
	0.
	2.895E-01
	2.931E-10
	6.677E-01

$$p_1 = 50 \text{ N/m}^2$$

PI = 5.00E+01 N/SEC-M4				US1 = 1.20E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOLE FRACTIONS		SPECIES	
P	1.3591E+00	1.1774E+02	1.5598E+03				
T	1.0787E+01	1.2227E+01	1.4068E+01				
W	1.0657E+01	6.2222E+01	7.4815E+01				
M	2.2130E+01	3.9128E+01	4.5493E+01				
A	2.1606E+00	3.6846E+00	4.2201E+00				
S	1.3213E+00	1.4078E+00	1.4550E+00				
Z	1.1901E+00	4.237E+00	1.5200E+00				
GAME	8.102E-01	8.364E-01	8.474E-01				
U	5.1507E+00	1.5733E+00	1.5253E+00				
SPECIES							
F	1.1892E-10	2.1931E-08	6.8112E-08				
HE	4.2014E-02	2.5056E-02	2.2855E-02				
HE+	2.9113E-08	2.1327E-22	4.0866E-23				
HF+	2.1945E-01	1.2218E-79	1.8124E-76				
H	2.1945E-01	5.5778E-01	4.818E-01				
H+	1.1892E-10	2.1931E-08	4.8113E-08				
H2	4.3884E-01	3.4717E-01	2.8292E-01				

PI = 5.00E+01 N/SEC-4 US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.87E+01	1.4829E+01	2.0047E+01
T	1.00E+01	1.4007E+01	1.8010E+01
DM	1.00E+01	1.4007E+01	1.8010E+01
M	1.00E+01	1.4007E+01	1.8010E+01
A	1.00E+01	1.4007E+01	1.8010E+01
S	1.00E+01	1.4007E+01	1.8010E+01
Z	1.00E+01	1.4007E+01	1.8010E+01
GMF	1.00E+01	1.4007E+01	1.8010E+01
U	1.00E+01	1.4007E+01	1.8010E+01

SPECIES ----- WOLF FRACTIONS -----

F	2.2543E-10	5.5145E-08	2.2543E-07
HE	4.0243E-02	3.7825E-02	3.0692E-02
ME	2.7640E-27	2.4801E-21	7.4915E-20
MF	0.	2.1812E-71	2.1442E-71
M	2.0078E-01	1.8700E-01	7.7231E-01
H	2.7943E-10	1.5145E-08	2.2543E-07
M2	2.0078E-01	2.9017E-01	1.9700E-01

PI = 5.00E+01 N/SEC-4 US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7477E+01	1.8777E+01	2.0047E+01
T	1.00E+01	1.4007E+01	1.8010E+01
DM	1.00E+01	1.4007E+01	1.8010E+01
M	1.00E+01	1.4007E+01	1.8010E+01
A	1.00E+01	1.4007E+01	1.8010E+01
S	1.00E+01	1.4007E+01	1.8010E+01
Z	1.00E+01	1.4007E+01	1.8010E+01
GMF	1.00E+01	1.4007E+01	1.8010E+01
U	1.00E+01	1.4007E+01	1.8010E+01

SPECIES ----- WOLF FRACTIONS -----

F	1.00E+01	1.00E+01	1.00E+01
HE	1.00E+01	1.00E+01	1.00E+01
ME	1.00E+01	1.00E+01	1.00E+01
MF	1.00E+01	1.00E+01	1.00E+01
M	1.00E+01	1.00E+01	1.00E+01
H	1.00E+01	1.00E+01	1.00E+01
M2	1.00E+01	1.00E+01	1.00E+01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

PI = 5.00E+01 N/SEC-4 US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.87E+01	1.4829E+01	2.0047E+01
T	1.00E+01	1.4007E+01	1.8010E+01
DM	1.00E+01	1.4007E+01	1.8010E+01
M	1.00E+01	1.4007E+01	1.8010E+01
A	1.00E+01	1.4007E+01	1.8010E+01
S	1.00E+01	1.4007E+01	1.8010E+01
Z	1.00E+01	1.4007E+01	1.8010E+01
GMF	1.00E+01	1.4007E+01	1.8010E+01
U	1.00E+01	1.4007E+01	1.8010E+01

SPECIES ----- WOLF FRACTIONS -----

F	1.4932E-09	5.0771E-09	5.0771E-09
HE	1.4932E-09	5.0771E-09	5.0771E-09
ME	1.4932E-09	5.0771E-09	5.0771E-09
MF	1.4932E-09	5.0771E-09	5.0771E-09
M	1.4932E-09	5.0771E-09	5.0771E-09
H	1.4932E-09	5.0771E-09	5.0771E-09
M2	1.4932E-09	5.0771E-09	5.0771E-09

PI = 5.00E+01 N/SEC-4 US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.87E+01	1.4829E+01	2.0047E+01
T	1.00E+01	1.4007E+01	1.8010E+01
DM	1.00E+01	1.4007E+01	1.8010E+01
M	1.00E+01	1.4007E+01	1.8010E+01
A	1.00E+01	1.4007E+01	1.8010E+01
S	1.00E+01	1.4007E+01	1.8010E+01
Z	1.00E+01	1.4007E+01	1.8010E+01
GMF	1.00E+01	1.4007E+01	1.8010E+01
U	1.00E+01	1.4007E+01	1.8010E+01

SPECIES ----- WOLF FRACTIONS -----

F	1.00E+01	1.00E+01	1.00E+01
HE	1.00E+01	1.00E+01	1.00E+01
ME	1.00E+01	1.00E+01	1.00E+01
MF	1.00E+01	1.00E+01	1.00E+01
M	1.00E+01	1.00E+01	1.00E+01
H	1.00E+01	1.00E+01	1.00E+01
M2	1.00E+01	1.00E+01	1.00E+01

Table III. - Continued

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/50-M, US1 = 1.40E+04 M/SEC				P1 = 5.00E+01 N/50-M, US1 = 1.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
F-	1.8658E-09	6.6010E-07	4.8779E-06	F-	1.9000E-09	7.777E-06	1.7231E-07
HF	7.6730E-02	2.8979E-02	2.6944E-02	HF	7.1820E-02	2.8730E-02	2.8737E-12
HE+	1.2600E-20	9.5875E-19	1.5155E-16	HE+	7.7702E-22	4.8504E-12	4.6678E-08
HE++	9.7827E-01	5.8500E-57	5.1777E-59	HE++	6.7700E-01	5.8104E-12	7.7163E-28
H	5.3045E-01	8.4484E-01	9.7224E-01	H	7.2600E-01	9.6000E-01	9.6000E-01
H+	1.8658E-09	6.6010E-07	4.8779E-06	H+	1.9000E-09	7.777E-06	1.7231E-07
H2	4.3281E-01	1.2628E-01	5.0803E-02	H2	7.6711E-01	4.1087E-02	4.8427E-04

PI = 5.00E+01 N/SQ-M, USI = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2791E+02	2.5904E+03	3.5093E+02
T	1.1045E+01	1.7397E+01	2.2444E+01
RHO	1.3480E+01	8.1234E+01	8.3104E+01
M	3.7252E+01	6.7637E+01	8.0508E+01
A	3.7258E+00	5.4201E+00	4.9237E+00
S	1.4857E+00	1.4233E+00	1.6540E+00
Z	1.4267E+00	1.8329E+00	1.9332E+00
GAME	8.2141E-01	9.2124E-01	1.1030E+00
U	1.2223E+01	2.0296E+00	2.3464E+00

SPECIES	MOLE FRACTIONS
E-	4.1671E-09
HE	3.5045E-07
ME+	1.0532E-24
HE++	4.9578E-90
H	5.9821E-01
M+	4.1671E-09
M2	3.4474E-01
	2.8264E-04
	2.7279E-07
	3.5748E-17
	1.8677E-41
	5.0831E-01
	2.8264E-06
	6.2884E-07
	1.0102E-74
	7.8844E-02
	7.9177E-15
	2.5844E-47
	9.4514E-01
	1.0102E-74
	8.7894E-03

PI = 5.00E+01 N/SQ-M, USI = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5510E+02	2.0704E+03	4.2287E+02
T	1.2248E+01	1.5560E+01	3.0110E+01
RHO	1.3972E+01	7.7817E+01	7.3795E+01
M	4.1444E+01	7.5744E+01	8.2544E+01
A	2.8031E+00	6.2447E+00	7.0984E+00
S	1.5408E+00	1.4772E+00	1.7488E+00
Z	1.4044E+00	1.0134E+00	1.9524E+00
GAME	8.2415E-01	1.0288E+00	1.0882E+00
U	1.2978E+01	2.3222E+00	2.8342E+00

SPECIES	MOLE FRACTIONS
E-	8.9425E-09
HE	3.9411E-07
ME+	6.4708E-26
HE++	1.3781E-94
H	6.4344E-01
M+	8.9425E-09
M2	3.0033E-01
	2.7274E-06
	2.6187E-02
	6.0884E-14
	2.4694E-48
	9.5344E-01
	2.7274E-06
	2.0134E-05
	1.2437E-03
	2.5504E-02
	2.5477E-72
	9.1777E-10
	1.8834E-34
	7.4807E-01
	2.5504E-02
	1.2437E-03

PI = 5.00E+01 N/SQ-M, USI = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1791E+02	1.4377E+03	5.7444E+02
T	1.1045E+01	1.5628E+01	4.0204E+01
RHO	1.3480E+01	4.2534E+01	7.1040E+01
M	3.7252E+01	6.2412E+01	1.1779E+02
A	3.7258E+00	7.0244E+00	8.4903E+00
S	1.4857E+00	1.7803E+00	1.8734E+00
Z	1.4267E+00	1.0524E+00	2.0057E+00
GAME	8.4044E-01	1.0009E+00	9.2413E-01
U	1.2470E+01	2.5877E+00	3.7540E+00

SPECIES	MOLE FRACTIONS
E-	5.1454E-09
HE	3.5704E-07
ME+	2.9177E-24
HE++	1.1644E-80
H	7.8927E-01
M+	4.1671E-09
M2	1.8677E-01
	2.3877E-03
	2.7279E-07
	3.5748E-17
	1.8677E-41
	5.0831E-01
	2.8264E-06
	6.2884E-07
	1.0102E-74
	7.8844E-02
	7.9177E-15
	2.5844E-47
	9.4514E-01
	1.0102E-74
	8.7894E-03

PI = 5.00E+01 N/SQ-M, USI = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4047E+02	2.0444E+03	4.3031E+02
T	1.2248E+01	1.5779E+01	4.2684E+01
RHO	1.3972E+01	7.8004E+01	7.3031E+01
M	4.1444E+01	7.6044E+01	8.2071E+01
A	2.8031E+00	6.2384E+00	7.0897E+00
S	1.5408E+00	1.4753E+00	1.7488E+00
Z	1.4044E+00	1.0144E+00	2.0430E+00
GAME	8.2415E-01	1.0288E+00	1.0882E+00
U	1.2978E+01	2.3222E+00	2.8342E+00

SPECIES	MOLE FRACTIONS
E-	8.9425E-09
HE	3.9411E-07
ME+	1.3781E-94
HE++	1.4120E-97
H	6.4344E-01
M+	8.9425E-09
M2	3.0033E-01
	2.7274E-06
	2.6187E-02
	6.0884E-14
	2.4694E-48
	9.5344E-01
	2.7274E-06
	2.0134E-05
	1.2437E-03
	2.5504E-02
	2.5477E-72
	9.1777E-10
	1.8834E-34
	7.4807E-01
	2.5504E-02
	1.2437E-03

Table III. - Continued

$$P_1 = 50 \text{ N/m}^2$$

P ₁ = 5.00E+01 N/SC-M ₁ US ₁ = 2.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8354E+02	4.7704E+02	4.9609E+02
T	1.6640E+01	2.7870E+01	4.8127E+01
DMN	1.4770E+01	5.4720E+01	7.2612E+01
M	4.7731E+00	1.1122E+02	1.4185E+02
A	4.7731E+00	8.4432E+00	9.2971E+00
S	1.7202E+00	1.8247E+00	1.8842E+00
Z	1.9034E+00	1.9805E+00	2.0857E+00
GAME	8.7422E-01	9.5194E-01	8.9802E-01
U	1.6924E+01	4.1304E+01	4.0602E+01
SPECIES ----- MOLE FRACTIONS -----			
F-	2.4981E-07	2.0223E-02	4.5642E-02
HF	2.7771E-02	2.5130E-02	2.2958E-02
HF+	2.3780E-20	1.7980E-07	7.6029E-06
HF++	1.3409E-21	1.145E-27	1.7554E-21
H	8.9108E-01	9.3411E-01	8.4454E-01
M+	2.4881E-07	2.0223E-02	6.5659E-02
M?	8.1156E-02	2.1648E-04	1.6998E-04

P ₁ = 5.00E+01 N/SC-M ₁ US ₁ = 2.50E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.8432E+02	4.4357E+02	7.0274E+02
T	2.1045E+01	4.6944E+01	5.1378E+01
DMN	1.1975E+01	4.7183E+01	4.1444E+01
M	7.0272E+01	1.4119E+02	1.7702E+02
A	6.8592E+00	9.1548E+00	1.0500E+01
S	1.8538E+00	1.5243E+00	1.9893E+00
Z	1.9441E+00	2.0090E+00	2.2422E+00
GAME	1.1488E+00	8.9092E-01	8.8302E-01
U	1.7770E+01	4.6744E+01	4.7562E+01
SPECIES ----- MOLE FRACTIONS -----			
F-	1.1658E-06	4.8428E-02	1.2414E-01
HF	2.5452E-02	2.2885E-02	2.2441E-02
HF+	9.1774E-16	2.8710E-06	1.8390E-05
HF++	1.4154E-60	4.1434E-22	6.7880E-19
H	9.7104E-01	8.2914E-01	7.2921E-01
M+	1.1508E-02	4.8428E-02	1.2417E-01
M?	2.1156E-02	1.1554E-02	7.6805E-05

P1 = 4.00E+01 M/SEC US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.18E+00	4.57E+03	7.37E+03
T	1.54E+01	4.08E+01	4.82E+01
PM	1.43E+01	5.10E+01	7.15E+01
M	6.74E+01	1.21E+02	1.84E+02
A	1.89E+00	8.71E+00	9.48E+00
S	1.74E+00	1.85E+00	1.91E+00
Z	1.87E+00	2.02E+00	2.13E+00
GAME	9.22E+01	9.21E+01	8.90E+01
U	1.61E+01	4.21E+00	4.18E+00

SPECIES ----- WAVE EQUATIONS -----

E-	1.02E+04	3.49E+02	8.46E+02
HE	7.66E+00	5.67E+02	2.74E+02
ME+	6.51E+00	5.22E+02	7.17E+06
ME++	1.02E+07	5.01E+25	2.68E+20
M	9.34E+01	9.01E+01	8.00E+01
M+	1.02E+04	7.49E+02	8.47E+02
M2	3.01E+02	2.18E+04	1.59E+04

P1 = 4.00E+01 M/SEC US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.28E+00	4.99E+03	7.30E+03
T	1.74E+01	4.21E+01	5.08E+01
PM	1.33E+01	5.17E+01	6.72E+01
M	7.26E+01	1.21E+02	1.65E+02
A	1.96E+00	8.93E+00	9.83E+00
S	1.81E+00	1.98E+00	1.95E+00
Z	1.87E+00	2.05E+00	2.17E+00
GAME	1.04E+00	9.01E+01	8.83E+01
U	1.74E+01	4.43E+00	4.22E+00

SPECIES ----- WAVE EQUATIONS -----

E-	9.42E+04	5.12E+02	1.03E+01
HE	2.50E+02	2.43E+02	2.29E+02
ME+	1.27E+01	1.41E+04	1.27E+04
ME++	6.43E+00	5.09E+23	1.44E+19
M	9.43E+01	8.70E+01	7.64E+01
M+	4.24E+04	7.12E+02	1.09E+01
M2	1.10E+02	1.01E+04	9.88E+04

P1 = 4.00E+01 M/SEC US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.20E+00	4.20E+03	4.71E+03
T	7.07E+01	4.64E+01	5.25E+01
PM	1.04E+01	4.24E+01	5.61E+01
M	8.81E+01	1.51E+02	1.88E+02
A	7.40E+00	9.26E+00	1.07E+01
S	1.88E+00	1.95E+00	2.04E+00
Z	1.95E+00	2.13E+00	2.24E+00
GAME	1.12E+01	8.84E+01	8.80E+01
U	1.80E+01	4.50E+00	4.28E+00

SPECIES ----- WAVE EQUATIONS -----

E-	1.02E+04	4.00E+02	1.47E+01
HE	2.56E+00	7.47E+02	2.10E+02
ME+	1.50E+01	5.74E+04	2.64E+06
ME++	3.35E+01	4.35E+21	2.61E+18
M	9.10E+01	8.04E+01	8.04E+01
M+	1.02E+04	8.40E+02	1.47E+01
M2	3.01E+02	9.41E+06	6.09E+06

P1 = 4.00E+01 M/SEC US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.50E+00	4.24E+03	4.41E+03
T	7.84E+01	4.81E+01	5.31E+01
PM	9.01E+00	1.42E+01	1.78E+01
M	7.47E+01	9.80E+01	1.04E+02
A	1.01E+00	1.03E+00	1.03E+00
S	1.05E+00	1.07E+00	1.07E+00
Z	1.08E+00	1.10E+00	1.10E+00
GAME	1.08E+01	8.70E+01	8.70E+01
U	1.88E+01	4.50E+00	4.30E+00

SPECIES ----- WAVE EQUATIONS -----

E-	4.24E+02	1.06E+01	1.41E+01
HE	3.25E+00	2.20E+02	2.14E+02
ME+	7.44E+00	8.65E+04	3.73E+06
ME++	1.80E+01	7.87E+20	7.08E+18
M	8.85E+01	7.80E+01	8.85E+01
M+	4.24E+03	1.04E+01	1.41E+01
M2	2.10E+02	4.91E+06	4.04E+06

Table III. - Continued

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/SC-M, USL = 3.70E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	DEFLECTED SHOCK
P	5.00E+01	4.80E+01	4.80E+01
T	1.00E+01	4.97E+01	5.07E+01
DM	9.00E+01	4.07E+01	5.10E+01
M	9.00E+01	1.07E+01	2.17E+01
A	2.00E+01	0.07E+01	1.07E+01
S	1.00E+01	2.07E+01	2.07E+01
Z	1.00E+01	2.07E+01	2.07E+01
GAME	0.00E+01	0.00E+01	0.00E+01
U	1.00E+01	4.00E+01	4.00E+01
SPECIES ----- MOLE FRACTIONS -----			
P	1.00E+01	1.00E+01	1.00E+01
ME	2.00E+01	2.00E+01	2.00E+01
ME4	9.00E+01	1.00E+01	5.00E+01
ME4	0.00E+01	1.00E+01	2.00E+01
M	0.00E+01	1.00E+01	1.00E+01
M4	1.00E+01	1.00E+01	1.00E+01
M2	1.00E+01	1.00E+01	1.00E+01

P1 = 5.00E+01 N/SC-M, USL = 3.70E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	DEFLECTED SHOCK
P	5.00E+01	4.80E+01	4.80E+01
T	1.00E+01	4.97E+01	5.07E+01
DM	9.00E+01	4.07E+01	5.10E+01
M	9.00E+01	1.07E+01	2.17E+01
A	2.00E+01	0.07E+01	1.07E+01
S	1.00E+01	2.07E+01	2.07E+01
Z	1.00E+01	2.07E+01	2.07E+01
GAME	0.00E+01	0.00E+01	0.00E+01
U	1.00E+01	4.00E+01	4.00E+01
SPECIES ----- MOLE FRACTIONS -----			
P	1.00E+01	1.00E+01	1.00E+01
ME	2.00E+01	2.00E+01	2.00E+01
ME4	9.00E+01	1.00E+01	5.00E+01
ME4	0.00E+01	1.00E+01	2.00E+01
M	0.00E+01	1.00E+01	1.00E+01
M4	1.00E+01	1.00E+01	1.00E+01
M2	1.00E+01	1.00E+01	1.00E+01

PI = 8.00E+01 N/SQ-M, USI = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9173E+01	7.0077E+02	1.000E+04
T	4.180E+01	8.519E+01	6.523E+01
PHN	7.800E+01	4.517E+01	8.00E+01
M	1.453E+02	7.574E+02	7.122E+01
A	9.807E+01	1.157E+01	1.271E+01
S	7.003E+01	2.194E+01	2.70E+02
Z	7.160E+01	8.544E+01	7.77E+01
GAME	8.452E+01	8.871E+01	8.921E+01
U	7.370E+01	8.0E+01	4.9627E+00

SPECIES ----- WLF FRATTIONS -----

F-	8.914E+02	7.300E-01	7.974E-01
HE	7.335E+02	1.000E-02	1.741E-02
HE+	1.000E+01	1.362E-06	7.841E-04
M	4.197E+02	7.872E-14	4.721E-14
M+	7.987E+01	8.007E-01	7.750E-01
U	8.014E+02	7.397E-01	7.970E-01
W	7.800E+02	2.120E-05	1.561E-15

PI = 8.00E+01 N/SQ-M, USI = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9173E+01	7.0077E+02	1.000E+04
T	4.180E+01	8.519E+01	6.523E+01
PHN	7.800E+01	4.517E+01	8.00E+01
M	1.453E+02	7.574E+02	7.122E+01
A	9.807E+01	1.157E+01	1.271E+01
S	7.003E+01	2.194E+01	2.70E+02
Z	7.160E+01	8.544E+01	7.77E+01
GAME	8.452E+01	8.871E+01	8.921E+01
U	7.370E+01	8.0E+01	4.9627E+00

SPECIES ----- WLF FRATTIONS -----

F-	1.100E+01	2.743E-01	2.231E-01
HE	7.335E+02	1.000E-02	1.741E-02
HE+	1.000E+01	2.477E-06	6.064E-04
M	1.000E+02	7.751E-14	4.022E-14
M+	7.987E+01	4.007E-01	7.174E-01
U	1.000E+02	7.397E-01	7.970E-01
W	7.800E+02	1.561E-15	8.706E-06

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

PI = 8.00E+01 N/SQ-M, USI = 2.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9173E+01	7.0077E+02	1.000E+04
T	4.180E+01	8.519E+01	6.523E+01
PHN	7.800E+01	4.517E+01	8.00E+01
M	1.453E+02	7.574E+02	7.122E+01
A	9.807E+01	1.157E+01	1.271E+01
S	7.003E+01	2.194E+01	2.70E+02
Z	7.160E+01	8.544E+01	7.77E+01
GAME	8.452E+01	8.871E+01	8.921E+01
U	7.370E+01	8.0E+01	4.9627E+00

SPECIES ----- WLF FRATTIONS -----

F-	2.003E+02	1.622E-01	2.006E-01
HE	2.003E+02	2.195E-02	2.002E-02
HE+	2.003E+02	2.195E-02	2.002E-02
M	2.003E+02	8.000E-10	1.000E-16
M+	2.003E+02	8.000E-10	1.000E-16
U	2.003E+02	1.622E-01	2.006E-01
W	2.003E+02	2.195E-02	2.002E-02

PI = 8.00E+01 N/SQ-M, USI = 2.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9173E+01	7.0077E+02	1.000E+04
T	4.180E+01	8.519E+01	6.523E+01
PHN	7.800E+01	4.517E+01	8.00E+01
M	1.453E+02	7.574E+02	7.122E+01
A	9.807E+01	1.157E+01	1.271E+01
S	7.003E+01	2.194E+01	2.70E+02
Z	7.160E+01	8.544E+01	7.77E+01
GAME	8.452E+01	8.871E+01	8.921E+01
U	7.370E+01	8.0E+01	4.9627E+00

SPECIES ----- WLF FRATTIONS -----

F-	2.003E+02	1.622E-01	2.006E-01
HE	2.003E+02	2.195E-02	2.002E-02
HE+	2.003E+02	2.195E-02	2.002E-02
M	2.003E+02	8.000E-10	1.000E-16
M+	2.003E+02	8.000E-10	1.000E-16
U	2.003E+02	1.622E-01	2.006E-01
W	2.003E+02	2.195E-02	2.002E-02

$p_1 = 50 \text{ N/m}^2$

P1 = 5.00E+01 N/SEC-M0 US1 = 6.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4947E+02	1.7482E+04	2.0089E+04
T	5.1945E+01	7.6484E+01	8.0731E+01
QMN	1.1247E+01	5.4908E+01	6.3996E+01
M	2.4324E+02	4.3743E+02	5.3234E+02
S	1.0718E+01	1.5145E+01	1.7325E+01
L	2.3279E+01	2.4555E+00	2.6048E+00
Z	2.5425E+00	3.2498E+00	3.5279E+00
GAME	9.6327E-01	9.2783E-01	9.5914E-01
U	2.5112E+01	4.2777E+00	4.6349E+00

P1 = 5.00E+01 N/SEC-M0 US1 = 6.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4947E+02	1.7482E+04	2.0089E+04
T	5.1945E+01	7.6484E+01	8.0731E+01
QMN	1.1247E+01	5.4908E+01	6.3996E+01
M	2.4324E+02	4.3743E+02	5.3234E+02
S	1.0718E+01	1.5145E+01	1.7325E+01
L	2.3279E+01	2.4555E+00	2.6048E+00
Z	2.5425E+00	3.2498E+00	3.5279E+00
GAME	9.6327E-01	9.2783E-01	9.5914E-01
U	2.5112E+01	4.2777E+00	4.6349E+00

P1 = 5.00E+01 N/SEC-M0 US1 = 6.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4947E+02	1.7482E+04	2.0089E+04
T	5.1945E+01	7.6484E+01	8.0731E+01
QMN	1.1247E+01	5.4908E+01	6.3996E+01
M	2.4324E+02	4.3743E+02	5.3234E+02
S	1.0718E+01	1.5145E+01	1.7325E+01
L	2.3279E+01	2.4555E+00	2.6048E+00
Z	2.5425E+00	3.2498E+00	3.5279E+00
GAME	9.6327E-01	9.2783E-01	9.5914E-01
U	2.5112E+01	4.2777E+00	4.6349E+00

P1 = 5.00E+01 N/SEC-M0 US1 = 6.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4947E+02	1.7482E+04	2.0089E+04
T	5.1945E+01	7.6484E+01	8.0731E+01
QMN	1.1247E+01	5.4908E+01	6.3996E+01
M	2.4324E+02	4.3743E+02	5.3234E+02
S	1.0718E+01	1.5145E+01	1.7325E+01
L	2.3279E+01	2.4555E+00	2.6048E+00
Z	2.5425E+00	3.2498E+00	3.5279E+00
GAME	9.6327E-01	9.2783E-01	9.5914E-01
U	2.5112E+01	4.2777E+00	4.6349E+00

P1 = 5.00E+01 N/SEC-M0 US1 = 6.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4947E+02	1.7482E+04	2.0089E+04
T	5.1945E+01	7.6484E+01	8.0731E+01
QMN	1.1247E+01	5.4908E+01	6.3996E+01
M	2.4324E+02	4.3743E+02	5.3234E+02
S	1.0718E+01	1.5145E+01	1.7325E+01
L	2.3279E+01	2.4555E+00	2.6048E+00
Z	2.5425E+00	3.2498E+00	3.5279E+00
GAME	9.6327E-01	9.2783E-01	9.5914E-01
U	2.5112E+01	4.2777E+00	4.6349E+00

P1 = 5.00E+01 N/SEC-M0 US1 = 6.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4947E+02	1.7482E+04	2.0089E+04
T	5.1945E+01	7.6484E+01	8.0731E+01
QMN	1.1247E+01	5.4908E+01	6.3996E+01
M	2.4324E+02	4.3743E+02	5.3234E+02
S	1.0718E+01	1.5145E+01	1.7325E+01
L	2.3279E+01	2.4555E+00	2.6048E+00
Z	2.5425E+00	3.2498E+00	3.5279E+00
GAME	9.6327E-01	9.2783E-01	9.5914E-01
U	2.5112E+01	4.2777E+00	4.6349E+00

P1 = 5.00E+01 N/SEC-M0 US1 = 6.40E+04 M/SEC			
	MOVING SH		

$\rho_{\text{max}} = 2.0 \times 10^{-3} \text{ g/cm}^3$ $\rho_{\text{min}} = 1.5 \times 10^{-3} \text{ g/cm}^3$

	MOVING SURCH	STAMPING SURCH	SELECTED SURCH
D	1.7715-001	1.07665-001	1.07665-001
P	4.93105-001	4.90705-001	4.93105-001
Q	1.07711-001	1.07665-001	1.07665-001
R	1.07711-001	1.07665-001	1.07665-001
S	1.07711-001	1.07665-001	1.07665-001
T	1.07711-001	1.07665-001	1.07665-001
U	1.07711-001	1.07665-001	1.07665-001
V	1.07711-001	1.07665-001	1.07665-001
W	1.07711-001	1.07665-001	1.07665-001
X	1.07711-001	1.07665-001	1.07665-001
Y	1.07711-001	1.07665-001	1.07665-001
Z	1.07711-001	1.07665-001	1.07665-001
AA	1.07711-001	1.07665-001	1.07665-001
AB	1.07711-001	1.07665-001	1.07665-001
AC	1.07711-001	1.07665-001	1.07665-001
AD	1.07711-001	1.07665-001	1.07665-001
AE	1.07711-001	1.07665-001	1.07665-001
AF	1.07711-001	1.07665-001	1.07665-001
AG	1.07711-001	1.07665-001	1.07665-001
AH	1.07711-001	1.07665-001	1.07665-001
AI	1.07711-001	1.07665-001	1.07665-001
AJ	1.07711-001	1.07665-001	1.07665-001
AK	1.07711-001	1.07665-001	1.07665-001
AL	1.07711-001	1.07665-001	1.07665-001
AM	1.07711-001	1.07665-001	1.07665-001
AN	1.07711-001	1.07665-001	1.07665-001
AO	1.07711-001	1.07665-001	1.07665-001
AP	1.07711-001	1.07665-001	1.07665-001
AQ	1.07711-001	1.07665-001	1.07665-001
AR	1.07711-001	1.07665-001	1.07665-001
AS	1.07711-001	1.07665-001	1.07665-001
AT	1.07711-001	1.07665-001	1.07665-001
AU	1.07711-001	1.07665-001	1.07665-001
AV	1.07711-001	1.07665-001	1.07665-001
AW	1.07711-001	1.07665-001	1.07665-001
AX	1.07711-001	1.07665-001	1.07665-001
AY	1.07711-001	1.07665-001	1.07665-001
AZ	1.07711-001	1.07665-001	1.07665-001
BA	1.07711-001	1.07665-001	1.07665-001
BB	1.07711-001	1.07665-001	1.07665-001
BC	1.07711-001	1.07665-001	1.07665-001
BD	1.07711-001	1.07665-001	1.07665-001
BE	1.07711-001	1.07665-001	1.07665-001
BF	1.07711-001	1.07665-001	1.07665-001
BG	1.07711-001	1.07665-001	1.07665-001
BH	1.07711-001	1.07665-001	1.07665-001
BI	1.07711-001	1.07665-001	1.07665-001
BJ	1.07711-001	1.07665-001	1.07665-001
BK	1.07711-001	1.07665-001	1.07665-001
BL	1.07711-001	1.07665-001	1.07665-001
BM	1.07711-001	1.07665-001	1.07665-001
BN	1.07711-001	1.07665-001	1.07665-001
BO	1.07711-001	1.07665-001	1.07665-001
BP	1.07711-001	1.07665-001	1.07665-001
BQ	1.07711-001	1.07665-001	1.07665-001
BR	1.07711-001	1.07665-001	1.07665-001
BS	1.07711-001	1.07665-001	1.07665-001
BT	1.07711-001	1.07665-001	1.07665-001
BU	1.07711-001	1.07665-001	1.07665-001
BV	1.07711-001	1.07665-001	1.07665-001
BW	1.07711-001	1.07665-001	1.07665-001
BX	1.07711-001	1.07665-001	1.07665-001
BY	1.07711-001	1.07665-001	1.07665-001
BZ	1.07711-001	1.07665-001	1.07665-001
CA	1.07711-001	1.07665-001	1.07665-001
CB	1.07711-001	1.07665-001	1.07665-001
CC	1.07711-001	1.07665-001	1.07665-001
CD	1.07711-001	1.07665-001	1.07665-001
CE	1.07711-001	1.07665-001	1.07665-001
CF	1.07711-001	1.07665-001	1.07665-001
CG	1.07711-001	1.07665-001	1.07665-001
CH	1.07711-001	1.07665-001	1.07665-001
CI	1.07711-001	1.07665-001	1.07665-001
CJ	1.07711-001	1.07665-001	1.07665-001
CK	1.07711-001	1.07665-001	1.07665-001
CL	1.07711-001	1.07665-001	1.07665-001
CM	1.07711-001	1.07665-001	1.07665-001
CN	1.07711-001	1.07665-001	1.07665-001
CO	1.07711-001	1.07665-001	1.07665-001
CP	1.07711-001	1.07665-001	1.07665-001
CQ	1.07711-001	1.07665-001	1.07665-001
CR	1.07711-001	1.07665-001	1.07665-001
CS	1.07711-001	1.07665-001	1.07665-001
CT	1.07711-001	1.07665-001	1.07665-001
CU	1.07711-001	1.07665-001	1.07665-001
CV	1.07711-001	1.07665-001	1.07665-001
CW	1.07711-001	1.07665-001	1.07665-001
CX	1.07711-001	1.07665-001	1.07665-001
CY	1.07711-001	1.07665-001	1.07665-001
CZ	1.07711-001	1.07665-001	1.07665-001
DA	1.07711-001	1.07665-001	1.07665-001
DB	1.07711-001	1.07665-001	1.07665-001
DC	1.07711-001	1.07665-001	1.07665-001
DD	1.07711-001	1.07665-001	1.07665-001
DE	1.07711-001	1.07665-001	1.07665-001
DF	1.07711-001	1.07665-001	1.07665-001
DG	1.07711-001	1.07665-001	1.07665-001
DH	1.07711-001	1.07665-001	1.07665-001
DI	1.07711-001	1.07665-001	1.07665-001
DJ	1.07711-001	1.07665-001	1.07665-001
DK	1.07711-001	1.07665-001	1.07665-001
DL	1.07711-001	1.07665-001	1.07665-001
DM	1.07711-001	1.07665-001	1.07665-001
DN	1.07711-001	1.07665-001	1.07665-001
DO	1.07711-001	1.07665-001	1.07665-001
DP	1.07711-001	1.07665-001	1.07665-001
DQ	1.07711-001	1.07665-001	1.07665-001
DR	1.07711-001	1.07665-001	1.07665-001
DS	1.07711-001	1.07665-001	1.07665-001
DT	1.07711-001	1.07665-001	1.07665-001
DU	1.07711-001	1.07665-001	1.07665-001
DV	1.07711-001	1.07665-001	1.07665-001
DW	1.07711-001	1.07665-001	1.07665-001
DX	1.07711-001	1.07665-001	1.07665-001
DY	1.07711-001	1.07665-001	1.07665-001
DZ	1.07711-001	1.07665-001	1.07665-001
EA	1.07711-001	1.07665-001	1.07665-001
EB	1.07711-001	1.07665-001	1.07665-001
EC	1.07711-001	1.07665-001	1.07665-001
ED	1.07711-001	1.07665-001	1.07665-001
EE	1.07711-001	1.07665-001	1.07665-001
EF	1.07711-001	1.07665-001	1.07665-001
EG	1.07711-001	1.07665-001	1.07665-001
EH	1.07711-001	1.07665-001	1.07665-001
EI	1.07711-001	1.07665-001	1.07665-001
EJ	1.07711-001	1.07665-001	1.07665-001
EK	1.07711-001	1.07665-001	1.07665-001
EL	1.07711-001	1.07665-001	1.07665-001
EM	1.07711-001	1.07665-001	1.07665-001
EN	1.07711-001	1.07665-001	1.07665-001
EO	1.07711-001	1.07665-001	1.07665-001
EP	1.07711-001	1.07665-001	1.07665-001
EQ	1.07711-001	1.07665-001	1.07665-001
ER	1.07711-001	1.07665-001	1.07665-001
ES	1.07711-001	1.07665-001	1.07665-001
ET	1.07711-001	1.07665-001	1.07665-001
EU	1.07711-001	1.07665-001	1.07665-001
EV	1.07711-001	1.07665-001	1.07665-001
EW	1.07711-001	1.07665-001	1.07665-001
EX	1.07711-001	1.07665-001	1.07665-001
EY	1.07711-001	1.07665-001	1.07665-001
EZ	1.07711-001	1.07665-001	1.07665-001
FA	1.07711-001	1.07665-001	1.07665-001
FB	1.07711-001	1.07665-001	1.07665-001
FC	1.07711-001	1.07665-001	1.07665-001
FD	1.07711-001	1.07665-001	1.07665-001
FE	1.07711-001	1.07665-001	1.07665-001
FF	1.07711-001	1.07665-001	1.07665-001
FG	1.07711-001	1.07665-001	1.07665-001
FH	1.07711-001	1.07665-001	1.07665-001
FI	1.07711-001	1.07665-001	1.07665-001
FJ	1.07711-001	1.07665-001	1.07665-001
FK	1.07711-001	1.07665-001	1.07665-001
FL	1.07711-001	1.07665-001	1.07665-001
FM	1.07711-001	1.07665-001	1.07665-001
FN	1.07711-001	1.07665-001	1.07665-001
FO	1.07711-001	1.07665-001	1.07665-001
FP	1.07711-001	1.07665-001	1.07665-001
FQ	1.07711-001	1.07665-001	1.07665-001
FR	1.07711-001	1.07665-001	1.07665-001
FS	1.07711-001	1.07665-001	1.07665-001
FT	1.07711-001	1.07665-001	1.07665-001
FU	1.07711-001	1.07665-001	1.07665-001
FV	1.07711-001	1.07665-001	1.07665-001
FW	1.07711-001	1.07665-001	1.07665-001
FX	1.07711-001	1.07665-001	1.07665-001
FY	1.07711-001	1.07665-001	1.07665-001
FZ	1.07711-001	1.07665-001	1.07665-001
GA	1.07711-001	1.07665-001	1.07665-001
GB	1.07711-001	1.07665-001	1.07665-001
GC	1.07711-001	1.07665-001	1.07665-001
GD	1.07711-001	1.07665-001	1.07665-001
GE	1.07711-001	1.07665-001	1.07665-001
GF	1.07711-001	1.07665-001	1.07665-001
GG	1.07711-001	1.07665-001	1.07665-001
GH	1.07711-001	1.07665-001	1.07665-001
GI	1.07711-001	1.07665-001	1.07665-001
GJ	1.07711-001	1.07665-001	1.07665-001
GK	1.07711-001	1.07665-001	1.07665-001
GL	1.07711-001	1.07665-001	1.07665-001
GM	1.07711-001	1.07665-001	1.07665-001
GN	1.07711-001	1.07665-001	1.07665-001
GO	1.07711-001	1.07665-001	1.07665-001
GP	1.07711-001	1.07665-001	1.07665-001
GQ	1.07711-001	1.07665-001	1.07665-001
GR	1.07711-001	1.07665-001	1.07665-001
GS	1.07711-001	1.07665-001	1.07665-001
GT	1.07711-001	1.07665-001	1.07665-001
GU	1.07711-001	1.07665-001	1.07665-001
GV	1.07711-001	1.07665-001	1.07665-001
GW	1.07711-001	1.07665-001	1.07665-001
GX	1.07711-001	1.07665-001	1.07665-001
GY	1.07711-001	1.07665-001	1.07665-001
GZ	1.07711-001	1.07665-001	1.07665-001
HA	1.07711-001	1.07665-001	1.07665-001
HB	1.07711-001	1.07665-001	1.07665-001
HC	1.07711-001	1.07665-001	1.07665-001
HD	1.07711-001	1.07665-001	1.07665-001
HE	1.07711-001	1.07665-001	1.07665-001
HF	1.07711-001	1.07665-001	1.07665-001
HG	1.07711-001	1.07665-001	1.07665-001
HH	1.07711-001	1.07665-001	1.07665-001
HI	1.07711-001	1.07665-001	1.07665-001
HJ	1.07711-001	1.07665-001	1.07665-001
HK	1.07711-001	1.07665-001	1.07665-001
HL	1.07711-001	1.07665-001	1.07665-001
HM	1.07711-001	1.07665-001	1.07665-001
HN	1.07711-001	1.07665-001	1.07665-001
HO	1.07711-001	1.07665-001	1.07665-001
HP	1.07711-001	1.07665-001	1.07665-001
HQ	1.07711-001	1.07665-001	1.07665-001
HR	1.07711-001	1.07665-001	1.07665-001
HS	1.07711-001	1.07665-001	1.07665-001

5211305 ----- WJL 15 APR 1965 -----

[illegible]
$$J_{55}/M \approx 0.7 \times 10^{-2} \text{ g} \approx 1.5 \text{ g}$$
[illegible]

Species -----

[illegible]
$$235/\text{W } 70+309^{\circ} 7' = 15^{\circ} \text{N } 46-05/\text{N } 10+300^{\circ} 5' = 10^{\circ}$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6307E+02	1.5210E+04	2.2547E+04
T	1.2758E+01	8.1110E+01	9.6812E+01
PH	1.1450E+01	5.5385E+01	6.3378E+01
M	2.6486E+02	4.7864E+02	5.8631E+02
S	1.1120E+01	1.6072E+01	1.8832E+01
W	1.7759E+00	7.5502E+00	2.6704E+00
Z	2.6602E+00	3.3279E+00	3.6750E+00
CGF	8.6604E-01	9.3413E-01	9.9470E-01
U	1.2602E+01	4.7520E+00	7.1946E+00

SPECIES	-----	MOLE FRACTIONS
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F	2.4675E-01	4.24675E-01	4.4698E-01
MF	1.8175E-02	1.778E-02	4.668E-03
MF	7.8145E-04	3.4704E-04	8.938E-05
M	2.0075E-01	1.7911E-01	2.9314E-08
M	4.4737E-01	3.3917E-01	5.849E-02
M	7.6895E-01	4.7004E-01	4.604E-01
M	5.4875E-04	1.2378E-04	2.04E-07

$$D^1 = \epsilon_0 \wedge E + \gamma^1 N / SQ - \gamma^0 US^1 = 4.80E + 04 M / SFR$$

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.960E+03	1.670E+04	2.522E+04
T	5.660E+01	8.420E+01	1.0848E+02
DM	1.166E+01	5.341E+01	5.142E+01
W	2.804E+02	5.216E+02	6.454E+02
A	1.155E+01	1.459E+01	2.007E+01
C	4.207E+00	2.413E+00	2.735E+00
Z	2.761E+00	2.519E+00	2.785E+00
GE	9.674E+01	9.647E+01	1.050E+02
U	2.070E+01	7.183E+00	7.059E+00

SPECIES ----- MOLE FRACTIONS

5-	2.00875-00	4.45888-01	4.44925-01
ME	1.79876-00	8.05758-00	1.86501-01
+	1.22126-00	1.13142-00	1.13142-00
+	7.01145-04	1.99745-00	4.30301-00
+	7.04785-01	9.46444-01	7.82955-00
+	7.03745-01	4.60670-00	4.73886-01
+	7.03745-01	4.30301-00	4.30301-00

Table III. Continued

$$p_1 = 50 \text{ N/m}^2$$

p1 = 5.00E+01 N/SQ-M, US1 = 5.00E+04 M/SEC					p1 = 5.00E+01 N/SQ-M, US1 = 5.00E+04 M/SEC				
SPECIES	MOVING SHOCK		STANDING SHOCK		SPECIES	MOVING SHOCK		STANDING SHOCK	
	-----	-----	-----	-----		-----	-----	-----	-----
P	1.9411E+03		1.8741E+04	2.8182E+04	P	7.4789E+03		7.2656E+04	7.7473E+04
T	5.7458E+03		9.2471E+03	1.2577E+02	T	4.2502E+01		1.2371E+02	1.0578E+03
RHO	1.1787E+01		5.4474E+01	5.8153E+01	OH	1.2000E+01		4.7355E+01	4.0520E+01
M	3.1406E+02		5.4574E+02	7.1275E+02	M	7.0281E+03		7.0672E+02	9.3533E+03
A	1.1903E+01		1.8171E+01	2.3404E+01	A	1.2477E+01		7.2170E+01	2.3008E+01
S	2.4831E+00		2.6723E+00	2.7987E+00	S	7.4476E+00		7.9294E+00	7.0547E+00
Z	7.8640E+00		3.6611E+00	3.9520E+00	Z	3.1023E+00		7.8548E+00	7.0124E+00
GAME	8.7348E-01		9.8270E-01	1.1303E+00	GAME	8.9000E-01		1.1317E+00	1.0004E+00
U	7.5521E+01		7.4849E+00	9.0246E+00	U	7.9845E+01		1.0122E+01	1.2771E+01
SPECIES					SPECIES				
-----					-----				
F-	2.1942E-01		4.6445E-01	4.9391E-01	F-	7.8920E-01		4.0440E-01	5.0170E-01
HE	1.7258E-02		5.8444E-03	5.4681E-04	HE	1.6070E-03		5.2644E-04	7.3544E-05
HE+	1.8786E-04		7.8887E-03	1.2421E-02	HE+	6.7751E-04		1.2673E-02	7.0151E-03
HE++	9.7474E-14		1.0377E-08	8.8928E-04	HE++	1.0125E-03		7.4825E-04	4.8250E-03
H	3.4330E-01		6.5759E-02	1.1449E-02	H	2.0472E-01		1.0447E-01	1.0081E-03
H+	3.1542E-01		6.5646E-01	4.8147E-01	H+	7.8371E-01		4.8194E-01	4.8422E-01
H2	3.0786E-04		7.4749E-07	6.0281E-09	H2	9.7001E-07		4.2100E-06	3.0734E-11

P1 = 5.00E+01 N/SC-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1012E+02	1.9843E+04	3.1298E+04
T	5.9388E+01	1.0020E+02	1.4861E+02
RHO	1.1899E+01	5.2047E+01	5.4624E+01
M	3.3965E+02	4.1129E+02	7.8574E+02
A	1.2483E+01	1.5584E+01	2.8948E+01
S	2.5389E+00	2.7249E+00	2.8579E+00
Z	2.9733E+00	3.7404E+00	3.8822E+00
GAME	8.7820E+01	1.0236E+00	1.1899E+01
U	3.4988E+01	4.7145E+00	1.0254E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.4417E-01	4.7947E-01	6.0770E-01
HE	1.4529E-02	3.1731E-02	1.7277E-04
HE+	2.8714E-04	1.0194E-02	1.2547E-02
HE++	4.4465E-16	8.4570E-08	1.5882E-04
H	2.9514E-01	7.9498E-02	4.6788E-02
M+	3.4388E-01	4.4847E-01	6.8484E-01
M2	2.1887E-04	8.0658E-08	7.5119E-10

P1 = 5.00E+01 N/SC-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2472E+02	2.1227E+04	2.4402E+04
T	6.1419E+01	1.0124E+02	1.7379E+02
RHO	1.1976E+01	5.0636E+01	5.1670E+01
M	3.4424E+02	4.5740E+02	8.4289E+02
A	1.2938E+01	2.1220E+01	2.7418E+01
S	2.6890E+00	2.7794E+00	2.6104E+00
Z	3.0877E+00	3.8135E+00	3.8979E+00
GAME	8.8403E+01	1.0810E+00	1.1201E+00
U	3.8420E+01	9.1284E+00	1.1681E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.4574E-01	4.8944E-01	6.0942E-01
HE	1.4578E-02	1.3549E-02	7.4030E-04
HE+	4.3927E-04	1.1744E-02	1.1241E-02
HE++	2.1270E-14	7.9442E-07	1.4137E-03
H	2.4022E+01	2.1144E+01	2.1143E+01
M+	3.4703E+01	4.7401E+01	6.8564E+01
M2	1.4970E-04	2.0104E-08	1.2404E-10

P1 = 5.00E+01 N/SC-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5184E+02	2.2587E+04	4.0673E+04
T	6.5971E+01	1.3787E+02	2.1804E+02
RHO	1.1999E+01	4.4105E+01	4.7703E+01
M	4.2234E+02	7.5267E+02	1.0168E+03
A	1.4004E+01	2.4878E+01	3.0984E+01
S	7.6958E+00	2.4770E+00	2.9963E+00
Z	3.3046E+00	3.4782E+00	3.9316E+00
GAME	8.9955E+01	1.1571E+00	1.1100E+00
U	4.1284E+01	1.1184E+01	1.3782E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.0991E-01	4.9710E-01	5.0401E-01
HE	1.4071E-02	2.2141E-04	1.1996E-05
HE+	1.0590E-02	1.2613E-02	3.9124E-03
HE++	5.0646E-14	5.8527E-05	8.7932E-03
H	1.4417E-01	6.4492E-03	7.5254E-04
M+	4.0885E-01	4.4444E-01	4.8252E-01
M2	5.0341E-07	9.1978E-10	1.4140E-11

P1 = 5.00E+01 N/SC-M, US1 = 6.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7980E+02	2.4525E+04	4.4054E+04
T	4.8627E+01	1.5309E+02	2.4239E+02
RHO	1.1930E+01	4.1191E+01	4.5957E+01
M	4.5189E+02	8.0101E+02	1.0077E+03
A	1.4406E+01	2.4247E+01	3.3107E+01
S	2.7480E+00	2.9131E+00	3.0360E+00
Z	3.4124E+00	3.8992E+00	3.9421E+00
GAME	9.1298E+01	1.1572E+00	1.1644E+00
U	4.2484E+01	1.2372E+01	1.4033E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.2884E-01	4.5841E-01	5.0534E-01
HE	1.2967E-02	1.1140E-04	7.4504E-04
HE+	1.5841E-02	1.2417E-02	1.5144E-02
HE++	2.7442E-12	3.2740E-04	1.1165E-02
H	1.2928E+01	3.0055E-03	4.7955E-04
M+	4.7202E+01	4.4553E-01	4.8150E-01
M2	3.4647E-07	2.3961E-10	5.2037E-12

Table III. - Continued

$$P_1 = 50 \text{ N/m}^2$$

P1 = 5.00E+01 N/50-M, US1= 6.20E+04 M/SEC				P1 = 5.00E+01 N/50-M, US1= 4.80E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	2.9849E+03	2.5392E+04	4.7134E+04	P	2.5566E+02	2.7184E+04	5.4122E+04
T	7.1709E+01	1.6877E+02	2.7178E+02	T	8.5465E+01	2.1189E+02	3.4498E+02
RHO	1.1823E+01	3.8598E+01	4.3946E+01	RHO	1.1028E+01	3.2352E+01	3.7548E+01
M	4.8238E+02	8.5066E+02	1.1870E+03	M	5.7944E+02	1.0615E+03	1.4609E+03
A	1.5273E+01	2.7273E+01	3.5509E+01	A	1.8072E+01	1.0684E+01	4.1324E+01
S	2.8016E+00	2.9515E+00	3.0719E+00	S	2.9525E+00	3.0733E+00	3.1734E+00
Z	3.5206E+00	3.8980E+00	3.9466E+00	Z	3.7841E+00	3.9340E+00	3.9494E+00
GAME	9.2397E-01	1.1366E+00	1.1756E+00	GAME	1.7098E+00	1.7213E+00	1.1847E+00
U	4.4072E+01	1.3492E+01	1.6183E+01	U	4.8016E+01	1.4299E+01	1.9878E+01
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	4.4612E-01	4.9974E-01	5.0590E-01	E-	4.8469E-01	5.0432E-01	5.0625E-01
ME	1.1486E-02	4.2074E-05	9.4597E-07	ME	3.9182E-03	7.6521E-06	3.7868E-08
ME+	2.7157E-03	1.1434E-02	5.5967E-04	ME+	9.2949E-03	3.4578E-03	5.7946E-05
ME++	1.6554E-11	1.3289E-03	1.2109E-03	ME++	7.6150E-09	9.2042E-03	1.2602E-02
M	9.6274E-02	1.7799E-03	3.1094E-04	M	2.5701E-03	5.5313E-04	1.0453E-04
M+	4.4340E-01	4.8545E-01	4.8112E-01	M+	4.7540E-01	4.8242E-01	4.8099E-01
M2	1.7799E-07	7.3312E-11	2.0550E-12	M2	9.9050E-09	5.2244E-13	1.8771E-13

P1 = 5.07E+01 N/SC-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7626E+03	2.7068E+04	5.5084E+04
T	9.2842E+01	2.2938E+02	3.9573E+02
RHO	1.0560E+01	2.9939E+01	3.5245E+01
M	6.1351E+02	1.0573E+03	1.5281E+03
A	1.9521E+01	3.2230E+01	4.2036E+01
S	2.9583E+00	3.0915E+00	3.2045E+00
Z	3.8279E+00	3.9415E+00	3.9696E+00
GAMF	1.0455E+00	1.1490E+00	1.1850E+00
U	4.9209E+01	1.7316E+01	2.1028E+01

SPECIES	MOLE FRACTIONS
F-	4.9191E-01
HE	1.7290E-03
HE+	1.1299E-02
HE++	7.5204E-08
H	1.4477E-02
H+	4.8041E-01
H2	2.4474E-09
F-	5.0524E-01
HE	3.0171E-04
HE+	1.7494E-03
HE++	1.0913E-02
H	3.8937E-04
H+	4.8166E-01
H2	2.3257E-12

P1 = 5.00E+01 N/SC-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1760E+03	2.6213E+04	4.9963E+04
T	7.5351E+01	1.8394E+02	3.0228E+02
RHO	1.1642E+01	3.6448E+01	4.1863E+01
M	5.1383E+02	9.0177E+02	1.2777E+03
A	1.5031E+01	2.8141E+01	3.7560E+01
S	2.8534E+00	2.9881E+00	3.1074E+00
Z	3.6203E+00	3.9094E+00	3.9483E+00
GAMF	9.4204E-01	1.1012E+00	1.1820E+00
U	4.5428E+01	1.4454E+01	1.7481E+01

SPECIES	MOLE FRACTIONS
F-	4.6138E-01
HE	9.4511E-03
HE+	4.3598E-03
HE++	1.1299E-10
H	4.7759E-02
H+	4.5702E-01
H2	8.0948E-08
F-	5.0170E-01
HE	3.4512E-05
HE+	9.1799E-03
HE++	2.5755E-04
H	1.1480E-03
H+	4.8487E-01
H2	2.7307E-11
F-	5.0611E-01
HE	2.8272E-07
HE+	2.2712E-04
HE++	1.2436E-02
H	2.0806E-04
H+	4.8101E-01
H2	8.5387E-13

P1 = 5.00E+01 N/SC-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3704E+03	2.6769E+04	5.2306E+04
T	7.9870E+01	1.9827E+02	3.3311E+02
RHO	1.1371E+01	3.4422E+01	3.9763E+01
M	5.4619E+02	9.5238E+02	1.3692E+03
A	1.6943E+01	2.9227E+01	3.9465E+01
S	2.9046E+00	3.0227E+00	3.1407E+00
Z	3.7105E+00	3.9223E+00	3.9490E+00
GAMF	9.6899E-01	1.0984E+00	1.1840E+00
U	4.6749E+01	1.5447E+01	1.8713E+01

SPECIES	MOLE FRACTIONS
F-	4.7452E-01
HE	6.7484E-03
HE+	6.7245E-03
HE++	8.9645E-10
H	4.4210E-02
H+	4.6780E-01
H2	3.0895E-08
F-	5.0285E-01
HE	1.7642E-05
HE+	2.2718E-03
HE++	1.0803E-04
H	1.7553E-02
H+	1.4559E-04
H2	4.8099E-01
F-	5.0611E-01
HE	9.8440E-08
HE+	1.0803E-04
HE++	1.7553E-02
H	1.4559E-04
H+	4.8099E-01
H2	3.9014E-13

Table III. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+C2 N/SEC-M, US1 = 4.00E+03 M/SEC				P1 = 1.00E+C2 N/SEC-M, US1 = 7.00E+03 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	H	P	T	RHO	H
1.1124E+01	2.3037E+01	5.6547E+C1	1.1419E+01	3.4853E+01	1.3114E+02	8.4917E+00	1.5129E+01
2.8248E+C	3.5000E+00	4.5514E+0	1.1419E+01	6.4252E+00	8.4917E+00	1.5129E+01	1.5129E+01
3.9373E+00	5.3323E+00	1.1419E+01	1.1419E+01	5.4241E+C	1.5129E+01	1.5129E+01	1.5129E+01
2.8881E+00	3.6101E+00	5.1955E+C	1.1419E+01	6.5706E+0	1.0555E+01	1.0555E+01	1.0555E+01
1.0757E+00	1.8601E+00	2.1874E+C	1.1419E+01	2.4355E+C	2.7063E+00	1.1381E+00	1.1381E+00
1.0526E+C	1.0543E+00	1.0709E+C	1.1419E+01	1.1381E+00	1.1381E+00	1.1381E+00	1.1381E+00
1.0000E+00	1.0000E+00	1.0000E+C	1.1419E+01	1.2013E+C	1.2013E+C	1.2013E+C	1.2013E+C
5.9407E-01	9.8639E-01	9.6627E-01	1.1419E+01	5.2507E-01	8.4494E-01	8.4494E-01	8.4494E-01
2.3176E+00	1.3854E+00	1.2212E+C	1.1419E+01	4.4441E+C	1.5884E+00	1.5884E+00	1.5884E+00
SPECIES				SPECIES			
MULT FRACTIONS				MULT FRACTIONS			
E-	6.1334E-64	2.5778E-45	2.8083E-29	E-	1.6060E-18	1.0555E-13	4.6812E-12
HE	5.0000E-02	5.0000E-02	4.9999E-C2	HE	4.5536E-C2	4.9983E-02	4.7519E-C2
HE+	3.5514E-73	3.4990E-62	7.7789E-53	HE+	1.1312E-44	1.5545E-34	1.9043E-30
HE++	0.	0.	0.	HE++	0.	0.	0.
H	9.1392E-11	1.3121E-C8	3.0344E-C5	H	2.5412E-C3	4.0782E-C2	9.9259E-C2
H+	5.3460E-20	6.3460E-20	6.3460E-20	H+	1.6693E-18	1.0555E-13	4.6812E-12
H2	9.5000E-01	9.5000E-C1	9.4997E-C1	H2	9.4752E-C1	9.1024E-C1	9.3322E-01

PI = 1.00E+02 N/SC-M, USL = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7520E+01	4.6558E+01	1.0183E+02
T	3.3703E+00	5.1607E+00	6.9347E+01
RHO	4.5267E+00	9.3274E+00	1.4653E+01
H	3.5596E+00	5.4337E+00	7.8251E+01
A	1.9451E+00	2.2292E+00	2.5201E+00
S	1.0000E+00	1.0000E+00	1.0000E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.8153E-01	9.6286E-01	9.1391E-01
U	3.0256E+00	1.5158E+00	1.3517E+00

SPECIES	MOLF FRACTIONS
E-	8.2554E-42
HE	5.0000E-02
HE+	1.2282E-60
HE++	0.
H	3.5336E-07
H+	6.3463E-20
H2	9.5503E-01

PI = 1.00E+02 N/SC-M, USL = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5411E+01	9.3588E+01	1.5854E+02
T	5.0543E+00	6.9870E+00	8.4756E+00
RHO	4.5676E+00	1.1502E+01	1.8402E+01
H	5.3584E+00	7.7167E+00	1.0420E+01
A	2.2156E+00	2.5222E+00	2.7081E+00
S	1.1100E+00	1.1176E+00	1.1351E+00
Z	1.0000E+00	1.0000E+00	1.0166E+00
GAME	9.6353E-01	9.0738E-01	8.6505E-01
U	3.7255E+00	1.5135E+00	1.3847E+00

SPECIES	MOLF FRACTIONS
E-	1.5647E-27
HE	4.3053E-02
HE+	4.2776E-02
HE++	2.8555E-41
H	0.
H+	7.6570E-03
H2	5.2209E-03

PI = 1.00E+02 N/SC-M, USL = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6277E+01	2.7055E+02	3.3353E+02
T	7.5570E+00	9.5028E+00	1.0468E+01
RHO	6.0303E+00	2.0336E+01	2.9001E+01
H	8.9507E+00	1.3575E+01	1.7421E+01
A	2.5746E+00	2.8544E+00	3.0759E+00
S	1.1651E+00	1.1850E+00	1.2129E+00
Z	1.0000E+00	1.0576E+00	1.1001E+00
GAME	8.6391E-01	8.2468E-01	8.2163E-01
U	5.1827E+00	1.5381E+00	1.3620E+00

SPECIES	MOLF FRACTIONS
E-	3.1303E-15
HE	4.5512E-02
HE+	9.0116E-38
HE++	0.
H	1.5503E-02
H+	3.1506E-15
H2	5.3053E-01

PI = 1.00E+02 N/SC-M, USL = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5470E+01	3.1607E+02	4.8184E+02
T	8.4602E+00	1.7546E+01	1.1326E+01
RHO	6.8456E+00	2.7059E+01	3.6652E+01
H	1.0597E+01	1.7070E+01	2.1880E+01
A	2.6510E+00	3.0940E+00	3.2680E+00
S	1.1531E+00	1.2234E+00	1.2551E+00
Z	1.0000E+00	1.1000E+00	1.1506E+00
GAME	8.3163E-01	8.2004E-01	8.2243E-01
U	5.5470E+00	1.5381E+00	1.3726E+00

SPECIES	MOLF FRACTIONS
E-	1.4551E-13
HE	4.1500E-02
HE+	1.0773E-27
HE++	0.
H	5.7410E-02
H+	1.6591E-13
H2	4.5332E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table III. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SC-M, US1 = 1.00E+04 M/SEC				P1 = 1.00E+02 N/SC-M, US1 = 1.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
-----				-----			
P	7.46E+01	4.51E+02	5.76E+02	P	1.30E+02	1.12E+03	1.55E+03
T	9.12E+00	1.13E+01	1.21E+01	T	1.06E+01	1.37E+01	1.47E+01
RHO	7.74E+00	3.68E+01	4.51E+01	RHO	1.03E+01	5.81E+01	7.02E+01
H	1.34E+01	2.24E+01	2.69E+01	H	2.21E+01	3.85E+01	4.55E+01
A	2.91E+00	3.00E+00	3.51E+00	A	3.15E+00	4.08E+00	4.34E+00
S	1.22E+00	1.25E+00	1.30E+00	S	1.32E+00	1.40E+00	1.45E+00
Z	1.05E+00	1.17E+00	1.23E+00	Z	1.18E+00	1.41E+00	1.50E+00
GAME	9.15E+01	8.22E+01	8.26E+01	GAME	8.14E+01	8.39E+01	8.50E+01
U	6.74E+00	1.51E+00	1.40E+00	U	5.12E+00	1.63E+00	1.58E+00
-----				-----			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
-----				-----			
E-	2.24E+01	5.54E+01	2.46E+01	E-	1.55E+01	3.46E+01	1.16E+01
HF	4.74E+01	4.27E+02	4.05E+02	HF	4.23E+02	3.54E+02	3.32E+02
HE+	1.02E+01	7.22E+01	3.06E+01	HE+	1.31E+01	2.78E+01	2.78E+01
HF++	0.	0.	1.53E+01	HF++	0.	4.64E+01	8.05E+01
H	1.10E+01	2.91E+01	3.77E+01	H	3.71E+01	5.81E+01	6.71E+01
H+	2.24E+01	5.54E+01	2.46E+01	H+	1.55E+01	3.46E+01	1.16E+01
H2	6.74E+00	1.51E+00	1.40E+00	H2	5.12E+00	1.63E+00	1.58E+00

PI = 1.00E+02 N/SEC-M, USL = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.1769E+01	5.4611E+02	9.4222E+12
T	9.5863E+00	1.2184E+01	1.2576E+01
RHO	8.6610E+00	4.2690E+01	5.3918E+01
M	1.4059E+01	2.7509E+01	3.2568E+01
A	2.5373E+00	3.5363E+00	3.7674E+00
S	1.2550E+00	1.3102E+00	1.3458E+00
Z	1.7537E+00	1.2410E+00	1.3141E+00
GAME	9.1458E-01	8.2641E-01	8.3243E-01
U	7.5562E+00	1.5332E+00	1.4450E+00

SPECIES ----- MULE FRACTIONS -----

E-	1.4160E-11	2.6972E-09	1.0114E-08
HE	4.5717E-02	4.0261E-02	3.8049E-02
HE+	5.7454E-03	3.1755E-24	8.6035E-23
HE++	0.	5.9453E-80	6.2321E-82
H	1.7421E-01	3.3997E-01	4.7806E-01
H+	1.4135E-11	2.6572E-05	1.0114E-08
H2	7.1207E-01	5.7017E-01	4.8389E-01

PI = 1.00E+02 N/SEC-M, USL = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1033E+02	4.2307E+02	1.2133E+03
T	1.7018E+01	1.2972E+01	1.3817E+01
RHO	5.5473E+00	5.1645E+00	6.2485E+00
M	1.3506E+01	3.3070E+01	3.8773E+01
A	3.3066E+00	3.7783E+00	4.0394E+00
S	1.2495E+00	1.3531E+00	1.4015E+00
Z	1.1349E+00	1.3220E+00	1.4052E+00
GAME	5.1351E-01	4.3230E-01	4.4026E-01
U	6.3432E+00	1.5732E+00	1.5035E+00

SPECIES ----- MULE FRACTIONS -----

E-	6.9010E-11	1.0404E-08	3.5446E-08
HE	4.4003E-02	3.7121E-02	3.5531E-02
HE+	1.4003E-28	7.5590E-23	1.5756E-21
HE++	0.	1.6538E-92	1.0156E-92
H	2.3773E-01	4.9718E-01	5.7676E-01
H+	6.0101E-11	1.3624E-08	3.5446E-08
H2	7.1810E-01	2.7703E-01	3.8766E-01

PI = 1.00E+02 N/SEC-M, USL = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5231E+02	1.4244E+03	1.5502E+03
T	1.1072E+01	1.4613E+01	1.5735E+01
RHO	1.1158E+01	5.4770E+01	7.6855E+01
M	2.5233E+01	4.5422E+01	5.2988E+01
A	3.3375E+00	4.3288E+00	4.6863E+00
S	1.3634E+00	1.4502E+00	1.5123E+00
Z	1.3239E+00	1.5049E+00	1.6127E+00
GAME	8.1605E-01	8.4975E-01	8.6546E-01
U	5.8565E+00	1.7054E+00	1.6808E+00

SPECIES ----- MULE FRACTIONS -----

E-	5.5894E-10	1.0635E-07	3.7515E-07
HE	4.0555E-02	3.3225E-02	3.1004E-02
HE+	1.8834E-26	2.0919E-20	4.9150E-15
HE++	0.	2.6609E-73	3.5789E-68
H	3.7773E-01	6.7095E-01	7.5583E-01
H+	5.5894E-10	1.0635E-07	3.7515E-07
H2	5.8166E-01	2.9578E-01	2.0516E-01

PI = 1.00E+02 N/SEC-M, USL = 1.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7574E+02	1.7532E+03	2.3542E+03
T	1.1492E+01	1.5542E+01	1.7001E+01
RHO	1.1833E+01	7.0255E+01	8.1674E+01
M	2.9178E+01	5.2296E+01	6.1062E+01
A	3.4825E+00	4.6407E+00	5.1085E+00
S	1.4032E+00	1.5135E+00	1.5703E+00
Z	1.2855E+00	1.5055E+00	1.7257E+00
GAME	8.1867E-01	8.6306E-01	8.8925E-01
U	1.0667E+01	1.8014E+00	1.8125E+00

SPECIES ----- MULE FRACTIONS -----

E-	1.4046E-09	3.1945E-07	1.3669E-06
HE	3.8750E-02	3.1144E-02	2.8575E-02
HE+	1.4027E-25	4.5627E-19	1.1079E-17
HE++	7.6757E-91	4.7972E-69	6.7574E-64
H	4.4800E-01	7.5426E-01	8.9102E-01
H+	1.4046E-09	3.1945E-07	1.3669E-06
H2	5.1291E-01	2.1460E-01	1.3001E-01

Table III. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SC-M, US1 = 1.60E+04 M/SEC					P1 = 1.00E+02 N/SC-M, US1 = 1.90E+04 M/SEC				
SPECIES	MOLE FRACTIONS				SPECIES	MOLE FRACTIONS			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	
E-	3.2570E-09	1.0145E-06	6.0875E-C6		E-	3.3402E-09	2.2554E-C6	1.0222E-02	
HE	3.7049E-02	2.9255E-02	2.7215F-C2		HE	3.2147E-02	2.5820E-02	2.5471E-02	
ME+	1.1400E-24	4.9483E-18	6.0876F-16		ME+	2.8000E-22	3.3540E-12	4.5780E-08	
ME++	8.5820E-88	1.4107E-64	1.2807E-56		ME++	2.0159E-30	3.3405E-43	4.6025E-28	
M	5.1805E-01	8.2980E-01	9.1139F-C1		M	7.1133E-01	6.6614E-C1	5.5227E-01	
M+	3.2570E-C9	1.0145E-C6	6.0875F-C6		M+	3.3402E-C9	2.2554E-C6	1.0222E-02	
M2	4.4490E-C1	1.4094E-01	6.1385F-C2		M2	2.5344E-C1	7.5667E-03	3.6125E-C4	
P	2.0071E+02	2.1082F+03	2.8979E+03		P	2.8979E+02	3.1775E+03	4.8743E+03	
T	1.1510E+01	1.6645E+01	1.8890E+01		T	1.3232E+01	2.4561E+01	3.6603E+01	
RND	1.2480E+01	7.4109E+01	8.3501E+01		RND	1.3647E+01	6.6630E+01	6.7546E+01	
M	3.5083E+01	5.9632E+01	7.0010E+01		M	4.6257E+01	9.3807E+01	1.0569E+02	
A	3.6248E+00	5.0131E+00	5.7161E+00		A	4.1117E+00	7.2854E+00	9.5266E+00	
S	1.4447E+00	1.5674E+00	1.6253E+00		S	1.5775E+00	1.7177E+00	1.7863E+00	
Z	1.3454E+00	1.7091E+00	1.8322E+00		Z	1.5557E+00	1.3581E+00	1.9634E+00	
GAME	8.2155E-01	8.8342F-01	9.4165F-C1		GAME	9.3737E-01	1.1176E+00	1.0070E+00	
U	1.1434E+01	1.9264E+00	2.0060E+00		U	1.3685E+01	2.9381E+00	3.5279E+00	

PI = 1.00E+02 N/SC-M, USI = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2727E+02	2.4004E+03	3.4840E+03
T	1.2332E+01	1.8112E+01	2.2847E+01
RHO	1.3030E+01	7.5677E+01	7.9336E+01
M	3.7230E+01	6.7308E+01	8.0510E+01
A	3.7550E+00	5.4941E+00	6.8753E+00
S	1.4877E+00	1.6275E+00	1.6854E+00
Z	1.4144E+00	1.8096E+00	1.9222E+00
GAME	8.2607E-01	9.2095E-01	1.0776E+00
U	1.2180E+01	2.0993E+00	2.3945E+00

SPECIES

MOLE FRACTIONS

E-	7.3410E-09	3.8570E-06	8.5802E-05
HE	3.5350E-02	2.7630E-02	2.6012E-02
ME+	7.5805E-24	1.3236E-16	3.6138E-13
ME++	2.1512E-04	3.4453E-59	1.4588E-46
H	5.8600E-01	8.9480E-01	9.5524E-01
M+	7.2410E-09	3.8570E-06	8.5802E-05
M2	3.7045E-01	7.7567E-02	1.4572E-02

PI = 1.00E+02 N/SC-M, USI = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1610E+02	3.4757E+03	5.5410E+03
T	1.3744E+01	2.9582E+01	4.1297E+01
RHO	1.4102E+01	6.0090E+01	6.7168E+01
M	5.1200E+01	9.2327E+01	1.1788E+02
A	4.3344E+00	9.2327E+00	9.4581E+00
S	1.6237E+00	1.7567E+00	1.8216E+00
Z	1.5312E+00	1.7492E+00	1.8978E+00
GAME	8.4575E-01	1.0160E+00	5.5104E-01
U	1.4433E+01	3.3441E+00	3.4315E+00

SPECIES

MOLE FRACTIONS

E-	7.2222E-09	1.7521E-06	2.4455E-02
HE	3.0012E-02	2.5670E-02	2.5027E-02
ME+	1.7732E-41	5.1205E-10	4.2049E-07
ME++	1.8164E-77	3.4485E-30	1.3050E-24
H	7.7303E-01	9.6166E-01	9.2250E-01
M+	7.2222E-09	1.7521E-06	2.4455E-02
M2	1.5544E-01	2.1881E-03	5.0612E-04

PI = 1.00E+02 N/SC-M, USI = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5530E+02	2.8473E+03	4.1777E+03
T	1.2780E+01	2.5489E+01	3.2222E+01
RHO	1.3486E+01	7.3385E+01	7.5224E+01
M	4.1643E+01	7.5408E+01	9.3133E+01
A	3.9671E+00	6.2485E+00	8.2635E+00
S	1.5321E+00	1.6719E+00	1.7469E+00
Z	1.4832E+00	1.6937E+00	1.9452E+00
GAME	8.3107E-01	1.0763E+00	1.1039E+00
U	1.2542E+01	2.3805E+00	3.0404E+00

SPECIES

MOLE FRACTIONS

E-	1.5740E-09	2.3063E-05	1.9130E-03
HE	3.3710E-02	2.6404E-02	2.5652E-02
ME+	4.7960E-23	1.1159E-14	7.2434E-10
ME++	2.8502E-43	4.6165E-52	1.3469E-34
H	6.5160E-01	9.4373E-01	5.6819E-01
M+	1.5740E-09	2.3063E-05	1.9130E-03
M2	3.1469E-01	2.9771E-02	2.3392E-03

PI = 1.00E+02 N/SC-M, USI = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4970E+02	3.7757E+03	6.1744E+03
T	1.3360E+01	3.6500E+01	4.4876E+01
RHO	1.4237E+01	5.2776E+01	5.7633E+01
M	5.6350E+01	1.0133E+02	1.3000E+02
A	4.3852E+00	9.3540E+00	5.1837E+00
S	1.4705E+00	1.7500E+00	1.8537E+00
Z	1.7049E+00	1.9610E+00	2.0344E+00
GAME	8.5753E-01	1.0312E+00	6.2385E-01
U	1.5162E+01	3.3066E+00	3.0402E+00

SPECIES

MOLE FRACTIONS

E-	1.6424E-07	6.9275E-03	4.1806E-02
HE	2.5250E-02	2.5489E-02	2.4577E-02
ME+	1.3683E-20	1.5403E-23	1.6737E-06
ME++	3.6115E-74	6.9330E-30	1.5467E-22
H	8.2961E-01	9.5972E-01	8.5146E-01
M+	1.6624E-07	6.9275E-03	4.1806E-02
M2	1.4113E-01	9.0134E-04	3.5643E-04

Table III. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SC-M, US1 = 2.20E+04 M/SEC				P1 = 1.00E+02 N/SC-M, US1 = 2.50E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	M	P	T	RHO	M
3.8252E+02	4.0758E+03	6.7414E+03	6.7414E+03	4.4613E+02	4.3592E+03	7.0395E+13	7.0395E+13
1.5050E+01	3.9499E+01	4.7815E+01	4.7815E+01	2.1187E+01	4.6460E+01	5.3848E+01	5.3848E+01
1.4198E+01	5.3476E+01	6.7935E+01	6.7935E+01	1.1812E+01	4.5144E+01	5.9112E+01	5.9112E+01
6.1745E+01	1.1078E+02	1.4233E+02	1.4233E+02	7.9268E+01	1.4079E+02	1.7825E+02	1.7825E+02
4.9657E+00	9.5002E+00	9.5002E+00	9.5002E+00	6.6275E+00	9.3376E+00	1.0312E+01	1.0312E+01
1.7179E+00	1.8221E+00	1.8221E+00	1.8221E+00	1.8480E+00	1.9197E+00	1.5846E+00	1.5846E+00
1.7647E+00	1.9819E+00	2.0754E+00	2.0754E+00	1.9423E+00	2.0784E+00	2.2115E+00	2.2115E+00
6.7414E+01	9.7146E+01	9.0564E+01	9.0564E+01	1.1326E+01	9.0295E+01	8.9254E+01	8.9254E+01
1.5880E+01	4.2106E+00	4.1906E+00	4.1906E+00	1.7770E+01	4.5478E+00	4.4323E+00	4.4323E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	4.2804E-07	1.6624E-02	6.6672E-02	F-	9.5625E-05	6.1965E-02	1.1839E-01
HE	2.7565E-02	2.5229E-02	2.4088E-02	HE	2.5740E-02	2.4054E-02	2.2583E-02
HE+	1.2597E-19	1.3249E-07	4.4629E-06	HE+	8.1757E-14	3.5170E-06	4.5455E-05
HE++	1.1014E-09	1.2412E-26	6.8837E-21	HE++	1.5565E-49	2.1141E-21	3.6211E-18
M	8.8031E-01	9.4098E-01	8.5430E-01	M	1.7011E-01	8.5182E-01	7.4050E-01
M+	4.2804E-07	1.6624E-02	6.6672E-02	M+	8.5625E-05	6.1965E-02	1.1839E-01
M2	9.1405E-02	5.4637E-04	2.7146E-04	M2	1.5683E-03	1.9731E-03	1.3213E-04

PI = 1.00E+02 N/SC-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2031E+02	4.2421E+03	6.7354E+3
T	2.5119E+01	4.9212E+01	5.5170E+01
RHO	1.0625E+01	4.1360E+01	5.4500E+01
H	8.5511E+01	1.5092E+02	1.8565E+2
A	7.4463E+00	9.5573E+00	1.0233E+1
S	1.3620E+00	1.9537E+00	2.0197E+00
Z	1.9494E+00	2.1172E+00	2.2564E+00
GAME	1.1330E+00	8.9488E+01	8.9047E+01
U	1.8290E+01	4.6716E+00	4.4661E+00

SPECIES	MOLE FRACTIONS
S-	7.4276E-04
HE	4.5649E-02
HE+	1.5812E-11
HE++	2.7431E-41
H	5.7181E-01
H+	7.4276E-04
H2	1.0561E-03

PI = 1.00E+02 N/SC-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5033E+02	4.2375E+03	6.6359E+3
T	2.8518E+01	4.3879E+01	5.5545E+1
RHO	5.4375E+00	3.9352E+01	5.0830E+01
H	5.2002E+01	1.6157E+02	2.0175E+02
A	7.7531E+00	9.7888E+00	1.0772E+1
S	1.0117E+00	1.3850E+00	2.0531E+00
Z	1.9553E+00	2.1580E+00	2.3079E+00
GAME	1.0628E+00	6.5584E+01	8.6524E+01
U	1.8936E+01	4.7091E+00	4.5102E+00

SPECIES	MOLE FRACTIONS
E-	3.3569E-03
HE	2.5565E-02
HE+	6.7031E-10
HE++	2.1197E-35
H	7.8300E-01
H+	3.3565E-03
H2	4.1365E-04

PI = 1.00E+02 N/SC-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1725E+02	4.1417E+03	7.1702E+3
T	1.6165E+01	4.1760E+01	5.0256E+01
RHO	1.3677E+01	5.1759E+01	6.7259E+01
H	5.7378E+01	1.2071E+02	1.5468E+02
A	5.2553E+00	8.8634E+00	9.8038E+00
S	1.7642E+00	1.3531E+00	1.9162E+00
Z	1.8601E+00	2.0095E+00	2.1158E+00
GAME	9.1557E-01	9.3649E-01	9.0158E-01
U	1.6574E+01	4.4359E+00	4.3054E+00

SPECIES	MOLE FRACTIONS
E-	1.4525E-06
HE	2.6880E-02
HE+	2.6326E-18
HE++	2.6107E-65
H	9.2480E-01
H+	1.4526E-06
H2	4.6316E-02

PI = 1.00E+02 N/SC-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5213E+02	4.4549E+03	7.2983E+3
T	1.8013E+01	4.4398E+01	5.2316E+1
RHO	1.3054E+01	4.9132E+01	6.4422E+01
H	7.3229E+01	1.3080E+02	1.6679E+02
A	5.5272E+00	9.1114E+00	1.0007E+1
S	1.9084E+00	1.3853E+00	1.9453E+00
Z	1.9172E+00	2.0422E+00	2.1655E+00
GAME	1.0175E+00	9.1558E-01	8.9645E-01
U	1.7413E+01	4.5841E+00	4.3870E+00

SPECIES	MOLE FRACTIONS
E-	8.5594E-06
HE	2.6080E-02
HE+	2.2929E-16
HE++	5.7661E-59
H	9.5677E-01
H+	6.5544E-06
H2	1.7136E-02

Table III. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+C2 N/SC-M, US1 = 2.80E+J4 M/SEC				P1 = 1.00E+C2 N/SC-M, US1 = 3.20E+J4 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	A	P	T	RHO	A
5.9528E+02	4.3715E+03	6.7738E+C3	5.8049E+11	7.7550E+02	5.7243E+03	8.6275E+C3	6.5050E+C1
3.2133E+01	5.1572E+C1	5.8049E+11	4.9404E+C1	4.0127E+01	5.8457E+01	6.5050E+C1	5.0851E+C1
9.4131E+00	3.4463E+01	2.1456E+C2	1.1041E+01	5.2829E+00	4.0547E+01	2.7742E+C2	1.2328E+C1
5.6775E+C1	1.7304E+C2	2.041E+01	2.041E+01	1.2865E+C2	2.2611E+02	1.190E+01	2.2081E+C1
7.9149E+0C	1.0041E+01	2.041E+01	2.041E+01	8.6022E+00	1.190E+01	2.2081E+C1	2.2081E+C1
1.9383E+0C	2.041E+01	2.041E+01	2.041E+01	2.0352E+C1	2.1308E+C1	2.2081E+C1	2.2081E+C1
1.9675E+0C	2.041E+01	2.041E+01	2.041E+01	2.0627E+00	2.4134E+00	2.6066E+C1	8.5575E+C1
5.9051E-01	8.3654E-01	8.8911E-01	4.5723E+C1	6.6414E-01	8.8689E-01	8.5575E+C1	4.9455E+C1
1.9436E+01	4.7624E+00	4.5723E+C1	4.5723E+C1	2.2175E+01	5.0801E+00	4.9455E+C1	4.9455E+C1
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.1533E-C1	1.7421E-C1	1.7421E-C1	E-	1.927E-01	2.5193E-01	2.5193E-01
HF	2.5413E-C2	2.2669E-C2	2.1102E-C2	HF	2.0629E-02	1.8503E-C2	1.8503E-C2
HE+	8.0155E-C5	1.7526E-05	7.3784E-05	HE+	7.5817E-C7	8.6890E-C5	2.7920E-C4
HE++	1.6174E-31	6.5421E-19	1.5183E-16	HE++	2.8282E-24	2.6078E-16	2.0701E-14
H	9.5617E-C1	7.4657E-C1	6.3040E-01	H	8.6630E-C1	5.5518E-C1	4.7721E-01
H+	9.0900E-C3	1.1531E-01	1.7414E-C1	H+	5.4695E-02	1.9194E-01	2.5165E-C1
H2	2.2275E-04	9.8669E-05	6.5659E-05	H2	6.029E-C5	5.1108E-05	3.4340E-C5

PI = 1.00E+02 N/SEC-M, USL = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.7833E+02	6.6754E+03	9.9850E+03
T	4.3414E+01	6.1962E+01	6.8915E+01
RHO	5.5110E+00	4.2561E+01	5.2811E+01
H	1.4520E+02	4.5135E+02	3.1328E+02
A	9.9857E+00	1.1918E+01	1.3058E+01
S	2.0818E+00	2.1876E+00	2.2698E+00
Z	2.1271E+00	2.5313E+00	2.7435E+00
GAME	8.7435E-01	8.9047E-01	9.0180E-01
U	2.3628E+01	5.2842E+00	5.1886E+00

SPECIES	WOLF FRACTIONS	WOLF FRACTIONS
E-	8.3300E-02	4.2067E-01
HE	2.3504E-02	1.9579E-02
HE+	2.5472E-06	1.7339E-04
HE++	1.5944E-22	3.1468E-15
H	8.0585E-01	5.2103E-01
H+	8.3257E-02	2.2950E-01
H2	4.8555E-05	3.7366E-05
		2.8926E-01
		1.7714E-02
		5.1085E-04
		1.5786E-13
		4.0375E-01
		2.8674E-01
		2.3679E-05

PI = 1.00E+02 N/SEC-M, USL = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.7833E+02	7.7475E+03	1.1523E+04
T	4.5941E+01	6.5450E+01	7.2951E+01
RHO	5.7782E+00	4.4577E+01	5.4757E+01
H	1.6276E+02	2.8816E+02	3.5179E+02
A	5.3701E+00	1.2475E+01	1.3839E+01
S	2.1296E+00	2.2448E+00	2.3321E+00
Z	2.1585E+00	2.5557E+00	2.8871E+00
GAME	8.5627E-01	3.5540E-01	9.0929E-01
U	2.5059E+01	5.2105E+00	5.4560E+00

SPECIES	WOLF FRACTIONS	WOLF FRACTIONS
E-	1.1303E-01	2.6574E-01
HE	2.2736E-02	1.8511E-02
HE+	5.2033E-06	3.1707E-04
HE++	5.2537E-22	3.0037E-14
H	7.5105E-01	4.4598E-01
H+	1.1303E-01	2.6543E-01
H2	3.6645E-05	2.6527E-05
		3.2460E-01
		1.8415E-02
		9.0278E-04
		1.6839E-12
		3.3436E-01
		3.2370E-01
		1.5745E-05

PI = 1.00E+02 N/SEC-M, USL = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3651E+02	4.6100E+03	7.0767E+03
T	3.4786E+01	5.3291E+01	5.9710E+01
RHO	5.2225E+00	3.8408E+01	4.5015E+01
H	1.0583E+02	1.8530E+02	2.2922E+02
A	8.0655E+00	1.0310E+01	1.1335E+01
S	1.5637E+00	2.0454E+00	2.1161E+00
Z	1.5653E+00	2.2523E+00	2.4160E+00
GAME	5.4290E-01	8.8556E-01	8.8986E-01
U	2.0080E+01	4.8233E+00	4.6488E+00

SPECIES	WOLF FRACTIONS	WOLF FRACTIONS
E-	1.7512E-02	1.3431E-01
HE	2.5185E-02	2.0514E-02
HE+	4.3979E-08	2.7462E-05
HE++	7.5187E-29	3.3794E-18
H	9.3884E-01	7.5912E-01
H+	1.7512E-02	1.3429E-01
H2	1.4525E-04	8.2584E-05
		1.5361E-01
		2.0514E-02
		1.0420E-04
		5.3638E-16
		5.9215E-01
		1.9351E-01
		5.8150E-05

PI = 1.00E+02 N/SEC-M, USL = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.8103E+02	4.9281E+03	7.5102E+03
T	3.6573E+01	5.3026E+01	6.1447E+01
RHO	5.1735E+00	3.8878E+01	4.9318E+01
H	1.1317E+02	1.9829E+02	2.4448E+02
A	8.2393E+00	1.0593E+01	1.1653E+01
S	1.5880E+00	2.0741E+00	2.1668E+00
Z	2.0077E+00	2.3035E+00	2.4782E+00
GAME	5.1433E-01	8.5527E-01	8.9131E-01
U	2.0753E+01	4.9304E+00	4.7407E+00

SPECIES	WOLF FRACTIONS	WOLF FRACTIONS
E-	2.8861E-02	1.5357E-01
HE	2.4504E-02	2.0029E-02
HE+	1.4664E-07	4.1746E-05
HE++	6.2306E-27	1.5786E-17
H	9.1724E-01	6.7113E-01
H+	2.8861E-02	1.5353E-01
H2	1.0645E-04	7.0031E-05
		2.1320E-01
		2.0029E-02
		1.4630E-04
		1.8749E-15
		5.5353E-01
		2.1320E-01
		4.8806E-05

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table III. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SC-M, US1 = 3.20E+04 M/SEC					P1 = 1.00E+02 N/SC-M, US1 = 4.40E+04 M/SEC				
MOVING SHOCK					MOVING SHOCK				
STANDING SHOCK					STANDING SHOCK				
REFLECTED SHOCK					REFLECTED SHOCK				
P	T	RHO	H	A	P	T	RHO	H	A
1.1C37E+03	3.921E+03	1.3247E+04	1.3247E+04	1.3247E+04	1.45C5E+03	1.2929E+04	1.93C8E+04	1.93C8E+04	1.93C8E+04
4.8243E+01	6.70C3E+01	7.7274E+01	7.7274E+01	7.7274E+01	5.4493E+01	8.0722E+01	9.3714E+01	9.3714E+01	9.3714E+01
1.0C52E+01	4.5422E+01	5.6472E+01	5.6472E+01	5.6472E+01	1.0782E+01	5.0186E+01	5.9121E+01	5.9121E+01	5.9121E+01
1.2133E+02	3.2208E+02	3.9258E+02	3.9258E+02	3.9258E+02	2.43C5E+02	4.3479E+02	5.3368E+02	5.3368E+02	5.3368E+02
5.7554E+00	1.3162E+01	1.4677E+01	1.4677E+01	1.4677E+01	1.0572E+01	1.5454E+01	1.7742E+01	1.7742E+01	1.7742E+01
4.1754E+00	2.3023E+00	2.35C5E+00	2.35C5E+00	2.35C5E+00	2.3211E+00	2.4763E+00	2.5854E+00	2.5854E+00	2.5854E+00
2.2750E+00	2.7822E+00	3.0355E+00	3.0355E+00	3.0355E+00	2.5367E+00	3.1914E+00	3.4399E+00	3.4399E+00	3.4399E+00
8.5745E-01	9.0145E-01	9.1835E-01	9.1835E-01	9.1835E-01	8.7C55E-01	9.27C6E-01	9.6386E-01	9.6386E-01	9.6386E-01
2.5573E+01	5.7552E+00	5.7543E+01	5.7543E+01	5.7543E+01	3.0558E+01	6.6618E+00	6.91C7E+00	6.91C7E+00	6.91C7E+00
SPECIES					SPECIES				
MOLE FRACTIONS					MOLE FRACTIONS				
E-	1.4221E-01	2.5895E-01	3.5762E-01	3.5762E-01	E-	2.3130E-01	3.8899E-01	4.5C44E-01	4.5C44E-01
PF	2.1957E-02	1.7307E-02	1.4521E-02	1.4521E-02	PF	1.5642E-02	1.3227E-02	7.5727E-03	7.5727E-03
HE+	1.2841E-03	5.51C0E-04	1.5508E-03	1.5508E-03	HE+	6.8485E-05	2.4396E-03	6.3750E-03	6.3750E-03
H	7.7231E-00	2.4117E-03	1.3261E-01	1.3261E-01	H	3.8137E-17	7.0132E-11	5.8460E-09	5.8460E-09
PF	6.5155E-01	3.8285E-01	2.6835E-01	2.6835E-01	PF	5.1775E-01	2.0879E-01	1.1114E-01	1.1114E-01
H2	1.4320E-01	2.9534E-01	3.58C7E-01	3.58C7E-01	H2	2.3123E-01	3.8655E-01	4.3407E-01	4.3407E-01
H2	2.8050E-01	1.8942E-05	9.94C6E-06	9.94C6E-06	H2	1.3071E-05	5.1327E-06	1.4639E-06	1.4639E-06

P1 = 1.00E+02 N/SEC-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0223E+03	1.0187E+04	1.5117E+14
T	5.0404E+01	7.2635E+01	9.2014E+11
RHO	1.0317E+01	6.4015E+01	5.7844E+11
H	2.0052E+02	3.5788E+02	4.3688E+12
A	1.0155E+01	1.1384E+01	1.5555E+11
S	2.0236E+00	2.3637E+00	2.4522E+00
Z	2.0383E+00	2.1895E+00	3.1128E+10
GAME	2.0755E+01	9.0473E+01	9.2942E+01
U	2.0051E+01	6.0320E+00	6.0830E+00

SPECIES ----- MULE FRACTIONS -----

SPECIES	E-	HE	HE+	HE++	H	H+	H2
E-	1.7316E-01	3.3194E-01	3.8807E-01				
HE	2.1178E-02	1.6158E-02	1.3058E-02				
HE+	2.3644E-05	9.3193E-04	2.5524E-03				
HE++	7.7573E-10	1.7117E-12	1.0026E-10				
H	6.3447E-01	3.1292E-01	2.1076E-01				
H+	1.7314E-01	3.3193E-01	3.8807E-01				
H2	2.1772E-05	1.2872E-05	5.8520E-06				

P1 = 1.00E+02 N/SEC-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3552E+03	1.0152E+04	1.7140E+14
T	5.0404E+01	7.2635E+01	9.2014E+11
RHO	1.0317E+01	6.4015E+01	5.7844E+11
H	2.0052E+02	3.5788E+02	4.3688E+12
A	1.0155E+01	1.1384E+01	1.5555E+11
S	2.0236E+00	2.3637E+00	2.4522E+00
Z	2.0383E+00	2.1895E+00	3.1128E+10
GAME	2.0755E+01	9.0473E+01	9.2942E+01
U	2.0051E+01	6.0320E+00	6.0830E+00

SPECIES ----- MULE FRACTIONS -----

SPECIES	E-	HE	HE+	HE++	H	H+	H2
E-	1.7316E-01	3.3194E-01	3.8807E-01				
HE	2.1178E-02	1.6158E-02	1.3058E-02				
HE+	2.3644E-05	9.3193E-04	2.5524E-03				
HE++	7.7573E-10	1.7117E-12	1.0026E-10				
H	6.3447E-01	3.1292E-01	2.1076E-01				
H+	1.7314E-01	3.3193E-01	3.8807E-01				
H2	2.1772E-05	1.2872E-05	5.8520E-06				

P1 = 1.00E+02 N/SEC-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6319E+03	1.4374E+04	2.1637E+14
T	5.0404E+01	8.5289E+01	1.0167E+12
RHO	1.0576E+01	5.0688E+01	5.8751E+11
H	2.0568E+02	4.7577E+02	5.8740E+12
A	1.1397E+01	1.6324E+01	1.9150E+11
S	2.1709E+00	2.5340E+00	2.6489E+00
Z	2.0317E+00	3.3281E+00	3.6223E+00
GAME	8.1737E-01	9.3938E-01	9.9578E-01
U	7.2466E+01	7.0389E+00	7.4566E+00

SPECIES ----- MULE FRACTIONS -----

SPECIES	E-	HE	HE+	HE++	H	H+	H2
E-	2.5599E-01	4.1374E-01	4.6167E-01				
HE	1.8889E-02	1.1258E-02	4.5118E-03				
HE+	1.0888E-04	3.7744E-03	8.8515E-03				
HE++	2.1202E-15	4.2537E-10	4.9357E-08				
H	4.6291E-01	1.6127E-01	7.1749E-02				
H+	2.5858E-01	4.0956E-01	4.5278E-01				
H2	1.0003E-05	2.9287E-06	5.6069E-07				

P1 = 1.00E+02 N/SEC-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7754E+03	1.5847E+04	2.4123E+14
T	5.8452E+01	9.0448E+01	1.1264E+12
RHO	1.1141E+01	5.0657E+01	5.7349E+11
H	2.8527E+02	5.1838E+02	6.4617E+12
A	1.1836E+01	1.7283E+01	2.1006E+11
S	2.4211E+00	2.5910E+00	2.7125E+00
Z	2.7303E+00	3.4560E+00	3.7407E+00
GAME	8.7713E-01	9.5595E-01	1.0473E+00
U	5.5927E+01	7.4615E+00	8.1841E+00

SPECIES ----- MULE FRACTIONS -----

SPECIES	E-	HE	HE+	HE++	H	H+	H2
E-	2.6585E-01	4.3577E-01	4.7871E-01				
HE	1.8143E-02	8.8872E-03	2.3154E-03				
HE+	1.6872E-04	5.5804E-03	1.1050E-02				
HE++	1.0665E-15	2.5626E-05	5.1306E-07				
H	4.1014E-01	1.1958E-01	4.0259E-02				
H+	2.6509E-01	4.3019E-01	4.6166E-01				
H2	7.5463E-06	1.5218E-06	1.5605E-07				

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table III. - Continued

$$P_1 = 100 \text{ N/m}^2$$

P1 = 1.00E+02 N/SC-M, US1 = 5.00E+04 M/SEC				P1 = 1.00E+02 N/SC-M, US1 = 5.00E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.9329E+03	1.7322E+04	2.69C2E+C4	E-	2.428E+C3	2.1361E+04	3.0352E+C4
HE	6.0525E+01	9.6477E+01	1.28C6E+C2	HE	5.7130E+01	1.2456E+02	1.9653E+C2
HE+	1.1276E+01	5.0154E+01	5.4959E+C1	HE+	1.1481E+01	4.6929E+01	4.7051E+C1
H	3.1385E+02	5.6247E+02	7.1C74E+C2	H	3.9355E+02	7.0157E+02	9.3613E+C2
H+	1.2291E+01	1.8378E+01	2.3305E+C1	A	1.3788E+01	2.2970E+01	2.9158E+C1
S	2.4719E+00	2.6469E+00	2.7735E+C0	S	2.6263E+C0	2.0014E+C0	2.319E+C0
Z	2.8323E+00	3.5769E+00	3.8224E+C0	Z	3.1519E+C0	3.4256E+00	3.5C38E+C0
GAME	8.8120E-01	9.7873E-01	1.1C55E+C0	GAME	8.9825E-01	1.1C80E+C0	1.1114E+C0
U	3.5383E+01	7.9533E+00	9.1236E+C0	U	3.5657E+01	1.0158E+01	1.2826E+C1
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.1151E-01	4.5484E-C1	4.8586E-C1	E-	3.4116E-C1	4.9024E-C1	5.0C48E-C1
HE	1.7397E-02	3.2571E-03	8.7C46E-C4	HE	1.4952E-C2	6.7573E-C4	7.4593E-C5
HE+	2.5703E-C4	7.7213E-03	1.2204E-C2	HE+	8.7568E-C4	1.2185E-C2	9.4623E-C3
H	5.0C82E-15	1.5634E-08	6.5C51E-C6	H	4.3975E-13	4.5056E-C6	3.2713E-C3
H+	3.5557E-C1	8.4C61E-C2	1.5425E-02	H+	2.2259E-C1	1.5375E-C2	2.234E-C3
M+	3.1125E-01	4.4712E-01	4.7764E-C1	M+	3.8024E-C1	4.7904E-01	4.8448E-C1
M2	5.5E53E-C6	6.99C7E-07	3.0849E-C8	M2	1.5C44E-C6	2.3701E-C4	2.5606E-C4

PI = 1.00E+02 N/SC-M, USL = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0524E+03	1.8766E+04	2.9851E+C4
T	6.2620E+01	1.0383E+02	1.4889E+C1
RHO	1.1378E+01	4.9072E+01	5.1931E+C1
H	3.3943E+02	6.0750E+02	7.8249E+C2
A	1.2762E+01	1.9682E+01	2.5734E+C1
S	2.5231E+00	2.7011E+00	2.8318E+C0
Z	2.9367E+00	3.6833E+00	3.8660E+C0
GAME	8.8598E-01	1.0130E+00	1.1535E+C0
U	3.6830E+01	8.5352E+00	1.0343E+C1

SPECIES	MOLE FRACTIONS
E-	3.3599E-01
HE	1.6638E-C2
HE+	3.8744E-C4
HE++	2.2532E-14
H	3.1138E-C1
H+	3.3560E-01
H2	4.0343E-06
E-	4.7059E-01
HE	3.7706E-C3
HE+	9.8040E-C3
HE++	9.5660E-C8
H	5.5054E-02
H+	4.6078E-C1
H2	2.7256E-07
E-	4.9560E-C1
HE	3.2489E-C4
HE+	1.2522E-C2
HE++	8.6223E-C5
H	8.5526E-C3
H+	4.8291E-C1
H2	4.9710E-C5

PI = 1.00E+02 N/SC-M, USL = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2577E+03	2.3105E+04	3.3004E+C4
T	6.4822E+01	1.1335E+02	1.7324E+C2
RHO	1.1442E+01	4.7200E+01	4.5012E+C1
H	3.6600E+02	6.5429E+02	8.5904E+C2
A	1.3244E+01	2.1242E+01	2.7760E+C1
S	2.5751E+00	2.7530E+00	2.8858E+C0
Z	3.0441E+C0	3.7679E+00	3.8676E+C0
GAME	8.9164E-01	1.0594E+00	1.1444E+C0
U	3.8269E+C1	9.2843E+00	1.1664E+C1

SPECIES	MOLE FRACTIONS
E-	3.5541E-01
HE	1.5841E-C2
HE+	5.8400E-04
HE++	1.0043E-14
H	2.6344E-C1
H+	3.5683E-C1
H2	2.8161E-C6
E-	4.8247E-01
HE	1.5208E-C3
HE+	1.1348E-02
HE++	6.7883E-C7
H	3.3135E-02
H+	4.7112E-C1
H2	8.7249E-08
E-	4.9833E-C1
HE	1.4760E-C4
HE+	1.1929E-C2
HE++	7.8720E-C4
H	3.9831E-C3
H+	4.6403E-C1
H2	9.1332E-10

PI = 1.00E+C2 N/SC-M, USL = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6050E+03	4.2453E+04	3.3069E+C4
T	6.5441E+01	1.3819E+02	2.1857E+C2
RHO	1.1477E+01	4.2037E+01	4.5578E+C1
H	4.2209E+02	7.4939E+C2	1.3137E+C3
A	1.4342E+01	2.4691E+01	3.0611E+C1
S	2.6780E+C0	2.8467E+00	2.9728E+C0
Z	3.2553E+00	3.4595E+00	3.9217E+C0
GAME	9.0622E-01	1.1430E+C0	1.1111E+C0
U	4.1114E+01	1.1201E+01	1.3840E+C1

SPECIES	MOLE FRACTIONS
E-	4.0171E-C1
HE	1.4018E-02
HE+	1.2225E-C3
HE++	1.5544E-12
H	1.8257E-C1
H+	4.0034E-01
H2	1.2224E-C6
E-	4.9475E-01
HE	4.0858E-C4
HE+	1.2114E-C2
HE++	3.1577E-C5
H	1.0127E-C2
H+	4.8417E-C1
H2	6.3150E-C5
E-	5.0276E-C1
HE	3.3201E-C3
HE+	5.7396E-C3
HE++	6.5768E-C3
H	1.4167E-C3
H+	4.8337E-C1
H2	9.5248E-11

PI = 1.00E+C2 N/SC-M, USL = 5.00E+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7627E+C3	2.3403E+C4	4.2069E+C4
T	7.2411E+01	1.5345E+02	2.4333E+C2
RHO	1.1431E+C1	3.9322E+01	4.3823E+C1
H	4.5160E+02	7.5772E+C2	1.0554E+C3
A	1.4543E+01	2.6232E+01	3.3075E+C1
S	2.7253E+C0	2.3895E+00	3.0130E+C0
Z	3.3666E+C0	3.4731E+C0	3.9369E+C0
GAME	9.1552E-01	1.1563E+C0	1.1422E+C0
U	4.2517E+C1	1.2345E+01	1.4962E+C1

SPECIES	MOLE FRACTIONS
E-	4.2078E-01
HE	1.2845E-C2
HE+	2.0084E-C3
HE++	9.4755E-12
H	1.4563E-C1
H+	4.1871E-C1
H2	7.3773E-C7
E-	4.9717E-01
HE	2.1001E-C4
HE+	1.2507E-02
HE++	1.7956E-04
H	5.6269E-C3
H+	4.8431E-C1
H2	1.5548E-C5
E-	5.0458E-C1
HE	1.1360E-C5
HE+	2.6134E-C3
HE++	1.0078E-C2
H	5.1527E-C4
H+	4.8191E-C1
H2	3.6799E-11

Table III. - Continued

$$p_1 = 100 \text{ N/m}^2$$

PI = 1.00E+C2 N/SC-M, US1 = 6.20E+04 M/SEC				PI = 1.00E+C2 N/SQ-M, US1 = 6.80E+C4 M/SEC				
SPECIES	----- MULE FRACTIONS -----		SPECIES	----- MULE FRACTIONS -----		SPECIES	----- MULE FRACTIONS -----	
	MOVING SHOCK	STANDING SHOCK		REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	2.9737E+03	2.4277E+C4	P	3.5562E+03	2.6242E+04	P	3.5562E+03	2.6242E+04
T	7.5537E+01	1.6893E+02	T	8.8691E+01	2.1445E+02	T	8.8691E+01	2.1445E+02
RHO	1.1339E+01	3.6951E+01	RHO	1.0717E+01	3.1163E+01	RHO	1.0717E+01	3.1163E+01
H	4.82C8E+02	8.4723E+02	H	5.7516E+02	1.0020E+03	H	5.7516E+02	1.0020E+03
A	1.5559E+01	2.7433E+01	A	1.82C2E+01	3.0574E+01	A	1.82C2E+01	3.0574E+01
S	2.76C5E+00	2.9279E+00	S	2.9272E+00	3.0345E+00	S	2.9272E+00	3.0345E+00
Z	3.4712E+00	3.8893E+00	Z	2.7413E+00	3.9252E+00	Z	2.7413E+00	3.9252E+00
GAME	5.2758E-01	1.1455E+00	GAME	9.9843E-01	1.1105E+00	GAME	9.9843E-01	1.1105E+00
U	4.3858E+01	1.3464E+01	U	4.7677E+01	1.6450E+01	U	4.7677E+01	1.6450E+01
E-	4.3824E-C1	4.9862E-01	E-	4.7879E-01	5.0241E-01	E-	4.7879E-01	5.0241E-01
HE	1.1349E-02	1.2360E-04	HE	4.4547E-C3	2.1709E-C5	HE	4.4547E-C3	2.1709E-C5
HE+	3.0551E-C3	1.1992E-02	HE+	8.8658E-C3	5.2208E-C3	HE+	8.8658E-C3	5.2208E-C3
HE++	4.7974E-11	7.4061E-C4	HE++	9.5165E-C9	7.4955E-03	HE++	9.5165E-C9	7.4955E-03
H	1.1218E-01	3.3747E-03	H	3.7933E-C2	1.0454E-03	H	3.7933E-C2	1.0454E-03
H+	4.3518E-C1	4.8515E-01	H+	4.6552E-01	4.8000E-01	H+	4.6552E-01	4.8000E-01
H2	4.1158E-C7	5.0314E-10	H2	3.6144E-C8	3.5804E-11	H2	3.6144E-C8	3.5804E-11

P1 = 1.00E+02 N/SC-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.75437+03	2.6417F+04	5.3773E+04
T	9.5436E+01	2.2564E+02	3.5430E+02
RHO	1.0339F+01	2.9234E+01	3.4234E+01
H	6.1327E+02	1.0545E+03	1.5481E+03
A	1.5455E+01	3.1959E+01	4.2951E+01
S	2.9730E+00	3.0676E+00	3.1844E+00
Z	3.8048E+00	3.9351E+00	3.9491E+00
GAME	1.0467E+00	1.1331E+00	1.1847E+00
U	4.9103E+01	1.7354E+01	2.0966E+01

SPECIES	MCLF FRACTIONS
E-	4.8749E-01
HF	2.3244E-03
HE+	1.0817E-06
HE++	3.0182E-03
H	7.2325E-08
H+	9.6775E-04
H2	7.5538E-04
	4.3208E-01
	1.7059E-11

P1 = 1.00E+02 N/SC-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1641E+03	2.5058E+04	4.7225E+04
T	7.5152E+01	1.8443E+02	3.0078E+02
RHO	1.1155E+01	3.4839E+01	4.0289E+01
H	5.1352E+02	8.5778E+02	1.2718E+03
A	1.6331E+01	2.8369E+01	3.7410E+01
S	2.8308E+00	2.8648E+00	3.0808E+00
Z	3.5705E+00	3.9000E+00	3.9445E+00
GAME	5.4364E-01	1.1189E+00	1.1790E+00
U	4.5253E+01	1.4529E+01	1.7425E+01

SPECIES	MCLF FRACTIONS
E-	4.5350E-01
HE	9.4158E-03
HE+	4.5869E-03
HE++	2.6214E-10
H	8.2782E-02
H+	4.4531E-01
H2	2.0867E-07
	1.8424E-10
	5.0591E-01
	1.0817E-06
	4.4618E-04
	1.2222E-02
	4.0644E-04
	4.8102E-01
	6.2624E-12

P1 = 1.00E+02 N/SC-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3584E+03	2.5695E+04	5.0235E+04
T	8.3502E+01	1.9946E+02	3.3102E+02
RHO	1.0979E+01	1.2926E+01	3.8440E+01
H	5.4588E+02	9.4933E+02	1.4622E+03
A	1.7189E+01	2.9333E+01	3.9316E+01
S	2.8807E+00	3.0005E+00	3.1201E+00
Z	3.6434E+00	3.9125E+00	3.9480E+00
GAME	5.6552E-01	1.1026E+00	1.1828E+00
U	4.6582E+01	1.5523E+01	1.8603E+01

SPECIES	MCLF FRACTIONS
E-	4.6770E-01
HE	7.0044E-03
HE+	6.6482E-03
HE++	1.5867E-09
H	5.7554E-02
H+	4.6105E-01
H2	9.2412E-08
	7.7653E-11
	5.0160E-01
	4.2531E-05
	8.0139E-03
	4.7240E-03
	1.2448E-02
	2.8665E-04
	4.8097E-01
	2.9305E-12

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table III. - Continued

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/CM ² US1 = 7.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1124E+01	1.2567E+02	2.310E+12
T	2.024E+00	4.6205E+01	9.310E+00
RHU	2.921E+00	1.4784E+01	2.253E+01
H	2.0831E+00	1.0520E+01	1.3675E+01
A	1.0737E+00	2.7158E+00	2.5249E+00
S	1.0560E+00	1.1542E+00	1.1750E+00
Z	1.0000E+00	1.0174E+00	1.0413E+00
GAME	9.9407E-01	8.5336E-01	8.3265E-01
U	2.3175E+00	1.6203E+00	1.4001E+00
MILE FRACTIONS			
SPECIES			
E-	1.1500E-14	1.1813E-13	6.5599E-12
PC	4.9554E-02	4.9147E-02	4.7744E-02
HE+	3.1015E-4F	1.3378E-33	9.0276E-30
HE++	0.	0.	0.
H	1.5543E-03	3.4137E-02	9.0240E-02
H+	1.2134E-13	1.1013E-13	6.5595E-12
H2	9.4010E-01	9.1672E-01	8.6202E-01

P1 = 2.00E+02 N/CM ² US1 = 4.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1124E+01	4.3087E+01	5.6540E+01
T	2.024E+00	3.5080E+00	4.9517E+00
RHU	2.921E+00	6.5823E+00	1.1418E+01
H	2.0831E+00	2.6101E+00	5.1955E+00
A	1.0737E+00	1.4601E+00	2.1876E+00
S	1.0560E+00	1.0560E+00	1.0730E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.9407E-01	9.8638E-01	9.6443E-01
U	2.3175E+00	1.3854E+00	1.2213E+00
MILE FRACTIONS			
SPECIES			
E-	2.1655E-04	5.1138E-46	1.0234E-29
HE	5.0000E-02	5.0000E-02	4.9999E-02
HE+	5.5582E-73	4.9483E-62	1.1105E-52
HE++	0.	0.	0.
H	6.8882E-11	5.2577E-05	2.1478E-05
H+	6.3460E-20	6.3460E-20	6.3460E-20
H2	5.5000E-01	9.5000E-01	9.4598E-01

PI = 2.00E+02 N/SC-M, USL = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.617E+01	2.022E+02	3.311E+02
T	7.675E+00	9.826E+00	1.079E+01
RHO	5.945E+00	1.570E+01	2.80E+01
M	8.45E+00	1.392E+01	1.740E+01
A	2.6CC4E+00	2.925E+00	3.122E+00
S	1.170E+00	1.182E+00	1.217E+00
Z	1.077E+00	1.051E+00	1.053E+00
GAMF	8.735E-01	8.104E-01	8.264E-01
U	5.171E+00	1.575E+00	1.357E+00

SPECIES	MLF FRACTIONS	MLF FRACTIONS
E-	2.872E-15	7.588E-12
HE	4.567E-02	4.755E-02
HE+	1.512E-37	9.50E-30
HE++	0.	0.
H	1.572E-02	9.774E-02
M+	2.872E-15	7.588E-12
M2	5.34E-01	8.547E-01

PI = 2.00E+02 N/SC-M, USL = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.948E+01	2.060E+02	4.736E+02
T	6.627E+00	1.084E+01	1.172E+01
RHO	6.732E+00	2.572E+01	3.503E+01
M	1.055E+01	1.782E+01	2.191E+01
A	2.727E+00	3.132E+00	3.343E+00
S	1.158E+00	1.227E+00	1.253E+00
Z	1.035E+00	1.097E+00	1.151E+00
GAMF	8.34E-01	8.254E-01	8.271E-01
U	5.945E+00	1.554E+00	1.411E+00

SPECIES	MLF FRACTIONS	MLF FRACTIONS
E-	2.122E-13	1.165E-10
HE	4.874E-02	4.542E-02
HE+	1.544E-33	5.377E-27
HE++	0.	0.
H	5.020E-02	1.817E-01
M+	2.132E-13	1.165E-10
M2	5.010E-01	7.731E-01

PI = 2.00E+02 N/SC-M, USL = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.752E+01	4.659E+01	1.015E+02
T	3.470E+00	5.161E+00	6.564E+00
RHO	4.526E+00	9.026E+00	1.461E+01
M	3.558E+00	5.433E+00	7.634E+00
A	1.947E+00	2.229E+00	2.539E+00
S	1.0E4E+00	1.088E+00	1.108E+00
Z	1.000E+00	1.000E+00	1.001E+00
GAMF	5.815E-01	9.633E-01	9.205E-01
U	3.725E+00	1.516E+00	1.355E+00

SPECIES	MLF FRACTIONS	MLF FRACTIONS
E-	2.519E-42	8.274E-27
HE	5.003E-02	4.999E-02
HE+	1.737E-00	6.147E-51
HE++	0.	0.
H	2.458E-07	5.227E-05
M+	6.340E-20	3.659E-18
M2	9.500E-01	9.499E-01

PI = 2.00E+02 N/SC-M, USL = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.541E+01	9.023E+01	1.554E+02
T	5.054E+00	7.012E+00	8.627E+00
RHO	4.387E+00	1.142E+01	1.315E+01
M	5.356E+00	7.709E+00	1.045E+01
A	2.216E+00	2.537E+00	2.740E+00
S	1.114E+00	1.121E+00	1.143E+00
Z	1.000E+00	1.001E+00	1.015E+00
GAMF	6.402E-01	9.162E-01	8.571E-01
U	3.725E+00	1.523E+00	1.406E+00

SPECIES	MLF FRACTIONS	MLF FRACTIONS
E-	6.747E-28	3.340E-17
HE	4.555E-02	4.390E-02
HE+	6.075E-52	7.692E-41
HE++	0.	0.
H	5.424E-00	3.870E-03
M+	6.345E-20	3.340E-17
M2	9.455E-01	9.462E-01

Table III. - Continued

$$\rho_1 = 200 \text{ N/m}^2$$

$\rho_1 = 2.00E+02 \text{ N/SC-M, US1 = 1.00E+04 M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.461E+01	4.4577E+02	6.5249E+02
T	5.354E+00	1.1759E+01	1.2625E+01
RMU	7.576E+00	3.2770E+01	4.2557E+01
H	1.3354E+01	2.7350E+01	2.6570E+01
A	2.0450E+00	3.3574E+00	3.5804E+00
S	1.2203E+00	1.2686E+00	1.3047E+00
Z	1.0524E+00	1.159E+00	1.2215E+00
GAME	8.2744E-01	4.2677E-01	8.219E-01
U	6.7412E+00	1.5556E+00	1.4439E+00
SPECIES ----- MOLE FRACTIONS -----			
F-	3.0241E-12	4.4666E-10	4.0408E-09
HF	4.7452E-02	4.3173E-02	4.0535E-02
HE+	1.1291E-31	4.2247E-25	1.8842E-23
HE++	C.	2.2371E-51	1.0163E-04
F	1.0030E-01	4.7506E-01	3.6261E-01
H+	3.0241E-12	4.4666E-10	4.0408E-09
H2	1.5221E-01	6.8141E-01	5.9245E-01

$\rho_1 = 2.00E+02 \text{ N/SC-M, US1 = 1.00E+04 M/SEC}$			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3009E+02	1.0845E+03	1.5139E+03
T	1.1007E+01	1.4354E+01	1.5419E+01
RMU	1.0091E+01	5.4254E+01	6.5934E+01
H	2.2107E+01	3.8804E+01	4.5643E+01
A	3.2503E+00	4.1108E+00	4.4364E+00
S	1.3003E+00	1.4092E+00	1.4574E+00
Z	1.1724E+00	1.3926E+00	1.4851E+00
GAME	8.1640E-01	8.4538E-01	8.5722E-01
U	5.0533E+00	1.6902E+00	1.6408E+00
SPECIES ----- MOLE FRACTIONS -----			
E-	3.2506E-10	5.5777E-08	1.5646E-07
HE	4.2443E-02	3.5905E-02	3.3577E-02
HF+	1.0537E-26	6.1390E-21	1.8260E-19
HE++	C.	4.4945E-75	1.1258E-69
H	2.5405E-01	5.6381E-01	6.5651E-01
H+	3.2506E-10	5.5777E-08	1.5646E-07
H2	6.6333E-01	4.0029E-01	3.0951E-01

PI = 2.00E+02 N/SEC-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.1463E+01	6.2345E+02	8.9888E+12
T	5.5552E+00	1.2631E+01	1.3521E+11
RHO	8.1443E+01	4.0153E+01	5.1045E+11
M	1.6051E+01	4.7325E+01	3.2613E+11
A	2.9732E+00	3.3916E+00	3.8355E+11
S	1.2202E+00	1.3131E+00	1.3331E+11
Z	1.0669E+00	1.2288E+00	1.3115E+11
GAME	8.1513E+01	9.3100E+01	8.3772E+11
U	7.5309E+00	1.5841E+00	1.4288E+11

SPECIES	MOLE FRACTIONS
E-	2.0945E-11
FE	4.2517E-09
ME+	4.0650E-02
ME++	1.8801E-23
M	1.1077E-04
Z	3.7240E-01
P+	4.2517E-09
M2	5.8691E-01

PI = 2.00E+02 N/SEC-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0000E+02	9.3634E+02	1.1822E+13
T	1.0503E+01	1.3488E+01	1.4439E+11
RHO	5.2271E+00	4.7449E+01	5.8841E+11
M	1.3555E+01	3.2863E+01	3.8833E+11
A	2.1121E+00	3.6418E+00	4.1225E+11
S	1.2541E+00	1.3601E+00	1.4040E+11
Z	1.1473E+00	1.3068E+00	1.3910E+11
GAME	4.1782E+01	8.3736E+01	8.4619E+11
U	5.3161E+00	1.5281E+00	1.5566E+11

SPECIES	MOLE FRACTIONS
E-	5.4353E-11
FE	1.6618E-08
ME+	3.3261E-02
ME++	4.6761E-22
M	1.5616E-08
Z	4.6550E-01
P+	1.6618E-08
M2	4.5216E-01

PI = 2.00E+02 N/SEC-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5194E+02	1.3660E+03	1.8947E+13
T	1.1481E+01	1.5223E+01	1.8521E+11
RHO	1.0817E+01	6.0292E+01	7.1905E+11
M	2.5511E+01	4.5215E+01	5.3081E+11
A	3.3536E+00	4.4041E+00	4.7947E+11
S	1.3676E+00	1.4600E+00	1.5127E+11
Z	1.2228E+00	1.4853E+00	1.5949E+11
GAME	8.2038E+01	8.5560E+01	8.7245E+11
U	9.8663E+00	1.7705E+00	1.7469E+11

SPECIES	MOLE FRACTIONS
E-	9.4057E-10
FE	4.0851E-02
ME+	1.1755E-25
ME++	5.4433E-01
M	3.6436E-01
Z	5.4057E-10
P+	5.5477E-01
M2	3.1286E-01

PI = 2.00E+02 N/SEC-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7517E+02	1.6753E+03	2.3246E+13
T	1.1540E+01	1.6250E+01	1.7871E+11
RHO	1.1482E+01	6.5224E+01	7.6223E+11
M	2.9164E+01	5.2079E+01	6.1158E+11
A	3.5435E+00	4.7305E+00	5.2277E+11
S	1.4070E+00	1.5120E+00	1.5653E+11
Z	1.2778E+00	1.5836E+00	1.7081E+11
GAME	8.2316E+01	8.6917E+01	8.9633E+11
U	1.0633E+01	1.3723E+00	1.8554E+11

SPECIES	MOLE FRACTIONS
E-	2.4187E-09
FE	3.5129E-02
ME+	1.0664E-24
ME++	1.7040E-07
M	4.3485E-01
P+	2.4137E-09
M2	5.2625E-01

Table III. - Continued

$$P_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SC-M, US1 = 1.60E+04 M/SEC				P1 = 2.00E+02 N/SC-M, US1 = 1.70E+04 M/SEC			
SPECIES	POLY FRACTIONS		SPECIES	POLY FRACTIONS		SPECIES	POLY FRACTIONS
	MOVING SHOCK	STANDING SHOCK		MOVING SHOCK	STANDING SHOCK		
P	2.0011E+02	2.0173E+03	P	2.2419E+02	3.000E+03	P	4.0920E+03
T	1.2394E+01	1.7420E+01	T	1.3829E+01	2.4889E+01	T	3.7153E+01
RHO	1.2072E+01	6.3719E+01	RHO	1.3342E+01	6.3656E+01	RHO	6.3342E+01
M	3.3045E+01	5.9352E+01	M	4.6475E+01	9.3531E+01	M	1.0581E+02
A	3.7018E+00	5.1086E+00	A	4.2373E+00	7.2375E+00	A	8.6644E+00
S	1.4479E+00	1.5646E+00	S	1.5765E+00	1.7134E+00	S	1.7842E+00
Z	1.3374E+00	1.6852E+00	Z	1.5433E+00	1.9251E+00	Z	1.5637E+00
GAME	8.2671E-01	8.8902E-01	GAME	8.4253E-01	1.0951E+00	GAME	1.0271E+00
U	1.1356E+01	2.0024E+00	U	1.3640E+01	2.9605E+00	U	3.5674E+00
E-	5.7364E-C5	1.5493E-06	E-	5.8200E-C3	1.9395E-C4	E-	9.2553E-C3
PE	3.7380E-C2	2.5670E-C2	PE	3.2460E-C2	2.5473E-02	PE	2.5465E-C2
HE+	8.8814E-24	2.4868E-17	HE+	2.0311E-21	3.4397E-12	HE+	4.4034E-C6
HE++	2.3914E-06	1.3331E-61	HE++	4.0453E-77	7.8064E-43	HE++	5.0259E-28
H	5.0457E-C1	8.1319E-01	H	7.0115E-C1	9.0535E-01	H	9.5660E-C1
M+	5.7364E-09	1.5490E-C6	M+	5.8200E-C4	1.9395E-04	M+	3.2553E-C3
M2	4.5805E-01	1.5714E-01	M2	2.4555E-C1	1.3127E-02	M2	1.5568E-C3

PI = 2.00E+02 N/SEC-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.260E+02	2.371E+03	3.363E+0
T	1.285E+01	1.891E+01	2.342E+01
RHO	1.258E+01	7.022E+01	7.525E+01
M	3.722E+01	6.711E+01	8.045E+01
A	3.868E+00	5.582E+00	6.862E+00
S	1.490E+00	1.616E+00	1.685E+00
Z	1.401E+00	1.785E+00	1.907E+00
GAME	8.310E-01	9.228E-01	1.054E+00
U	1.215E+01	2.177E+00	2.435E+00

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F-	1.247E-07	1.294E-03	2.111E-02
HE	3.096E-02	4.571E-02	2.512E-02
HE+	1.257E-02	3.916E-01	4.617E-07
H	7.614E-01	2.260E-03	3.045E-04
M+	1.247E-07	1.294E-03	2.111E-02
H2	2.076E-01	4.123E-03	4.834E-04

PI = 2.00E+02 N/SEC-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.478E+02	3.617E+03	5.557E+0
T	1.501E+01	3.471E+01	4.624E+01
RHO	1.365E+01	3.426E+01	6.355E+01
M	5.632E+01	1.109E+02	1.303E+02
A	4.682E+00	3.456E+00	5.376E+00
S	1.665E+00	1.787E+00	1.522E+00
Z	1.651E+00	1.757E+00	2.024E+00
GAME	8.636E-01	1.355E+00	5.238E+00
U	1.511E+01	3.485E+00	4.145E+00

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
F-	2.478E+02	3.617E+03	5.557E+0
HE	3.096E-02	4.571E-02	2.512E-02
HE+	1.257E-02	3.916E-01	4.617E-07
H	7.614E-01	2.260E-03	3.045E-04
M+	1.247E-07	1.294E-03	2.111E-02
H2	2.076E-01	4.123E-03	4.834E-04

PI = 2.00E+02 N/SEC-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.260E+02	2.371E+03	3.363E+0
T	1.285E+01	1.891E+01	2.342E+01
RHO	1.258E+01	7.022E+01	7.525E+01
M	3.722E+01	6.711E+01	8.045E+01
A	3.868E+00	5.582E+00	6.862E+00
S	1.490E+00	1.616E+00	1.685E+00
Z	1.401E+00	1.785E+00	1.907E+00
GAME	8.310E-01	9.228E-01	1.054E+00
U	1.215E+01	2.177E+00	2.435E+00

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.278E-08	5.386E-06	8.806E-05
HE	3.568E-02	2.800E-02	2.621E-02
HE+	5.816E-23	5.133E-16	5.724E-13
H	4.548E-03	7.429E-57	1.415E-45
M+	5.726E-01	8.796E-01	9.510E-01
H2	1.278E-08	5.386E-06	8.806E-05
H2	3.516E-01	9.235E-02	2.257E-02

PI = 2.00E+02 N/SEC-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.546E+02	2.723E+03	4.017E+0
T	1.332E+01	2.114E+01	3.028E+01
RHO	1.300E+01	6.881E+01	6.823E+01
M	4.162E+01	7.520E+01	9.284E+01
A	4.043E+00	6.262E+00	8.095E+00
S	1.533E+00	1.667E+00	1.740E+00
Z	1.465E+00	1.871E+00	1.944E+00
GAME	8.363E-01	9.908E-01	1.111E+00
U	1.250E+01	2.441E+00	3.037E+00

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.747E-08	2.559E-05	1.406E-03
HE	3.403E-02	2.671E-02	2.571E-02
HE+	3.492E-22	2.414E-14	5.504E-10
M	4.584E-08	1.141E-50	8.708E-35
M+	6.385E-01	9.315E-01	9.670E-01
H2	2.747E-08	2.559E-05	1.406E-03
H2	3.274E-01	4.173E-02	4.430E-03

REPRODUCIBILITY OF THE
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Table III. - Continued

$P_1 = 200 \text{ N/m}^2$

$P_1 = 2.00E+02 \text{ N/SC-M, USL} = 2.20E+04 \text{ M/SEC}$				$P_1 = 2.00E+02 \text{ N/SC-M, USL} = 2.50E+04 \text{ M/SEC}$			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	REFLECTED SHOCK			STANDING SHOCK	REFLECTED SHOCK	
P	3.8573E+03	6.5117E+03	P	4.0573E+02	4.2684E+03	7.0264E+03	
T	1.5785E+01	3.5032E+01	T	2.1423E+01	4.7968E+01	5.6666E+01	
RHO	1.3640E+01	5.0566E+01	RHO	1.1710E+01	4.3120E+01	5.660E+01	
M	6.1722E+01	1.1034E+02	M	7.5258E+01	1.4034E+02	1.7953E+02	
A	4.9646E+00	8.7532E+00	A	6.7821E+00	9.5240E+00	1.0555E+01	
S	1.7165E+00	1.8156E+00	S	1.8451E+00	1.9155E+00	1.9814E+00	
Z	1.7684E+00	1.9746E+00	Z	1.3363E+00	2.0636E+00	2.1960E+00	
GAME	6.8277E-01	9.2412E-01	GAME	1.0283E+00	9.1635E-01	9.0363E-01	
U	1.5834E+01	4.2741E+00	U	1.7755E+01	4.9172E+00	4.6234E+00	
SPECIES	MOVING SHOCK		REFLECTED SHOCK		MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	REFLECTED SHOCK			STANDING SHOCK	REFLECTED SHOCK	
E-	6.6571E-C7	1.3455E-C2	5.5532E-C2	F-	7.3671E-C5	5.5413E-02	1.1227E-C1
HE	2.6275E-C2	2.5321E-02	2.4233E-C2	FE	2.5822E-02	2.4225E-02	2.2733E-C2
FE+	7.1347E-15	1.2542E-C3	5.5467E-C6	HF+	8.3878E-14	4.1673E-C6	3.4823E-C5
HE++	9.5911E-69	2.2475E-26	2.4427E-20	H	2.2555E-45	6.4369E-21	1.7888E-17
H	8.6500E-C1	9.4679E-01	8.6425E-C1	H+	5.6689E-C1	8.4403E-C1	7.5251E-C1
H+	6.8971E-07	1.3455E-02	5.5526E-02	H2	7.3671E-05	5.5409E-02	1.1223E-C1
P2	1.0272E-C1	9.8244E-C4	4.6316E-C4		7.1436E-C3	3.4740E-C4	2.2804E-C4

PI = 2.00E+02 N/SC-M, US1 = 2.30E+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1614E+02	4.1477E+03	6.9524E+C3
T	1.0E56E+01	4.2625E+01	5.2320E+C1
RHO	1.3404E+01	4.8671E+01	6.3102E+1
H	6.7353E+01	1.2016E+02	1.5530E+C2
A	5.24C4E+00	9.0158E+00	1.0021E+11
S	1.7615E+0C	1.9505E+00	1.9148E+C0
Z	1.8414E+0C	1.9953E+00	2.1041E+1C
GAME	9.1859E-01	9.5466E-01	9.1319E-C1
U	1.6528E+01	4.5505E+00	4.4555E+C0

SPECIES	MULE FRACTIONS
E-	2.5314E-02
HE	2.7146E-C2
HE+	1.1990E-17
HE++	3.1473E-63
H	9.1417E-01
H+	2.5313E-C2
H2	5.8678E-02

PI = 2.00E+02 N/SC-M, US1 = 2.40E+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5122E+02	4.2952E+03	7.1613E+3
T	1.8553E+C1	4.5595E+01	5.4637E+C1
RHO	1.2781E+01	4.6427E+01	6.0943E+C1
H	7.32C9E+01	1.4025E+02	1.6766E+C2
A	5.9257E+C0	6.2809E+00	1.0327E+11
S	1.8052E+C0	1.4821E+00	1.9471E+C0
Z	1.9023E+00	2.0256E+00	2.1507E+C0
GAME	5.5600E-01	9.3101E-01	9.0755E-11
U	1.7176E+01	4.7277E+C0	4.5552E+C0

SPECIES	MULE FRACTIONS
E-	9.5771E-06
HE	2.4277E-C2
HE+	5.2116E-16
HE++	3.0763E-57
H	9.4889E-01
H+	5.5771E-C6
H2	2.4813E-C2

PI = 2.00E+C2 N/SC-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.2010E+02	4.1719E+03	6.7644E+3
T	2.5235E+C1	4.9957E+01	5.7580E+C1
RHO	1.0585E+01	3.9758E+01	5.2044E+11
H	8.5055E+01	1.5047E+02	1.9108E+C2
A	7.4744E+C0	9.7522E+C0	1.0821E+11
S	1.8755E+C0	1.4490E+C0	2.0159E+C0
Z	1.9471E+C0	2.1041E+C0	2.2417E+C0
GAME	1.1370E+C0	9.0592E-01	9.0090E-C1
U	1.8233E+01	4.8641E+C0	4.6624E+C0

SPECIES	MULE FRACTIONS
E-	5.5400E-04
E+	2.5673E-C2
HE+	1.2791E-11
HE++	2.3315E-41
H	9.7118E-C1
H+	5.5405E-C4
H2	2.0357E-C3

PI = 2.00E+C2 N/SC-M, US1 = 2.70E+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5595E+C2	4.1540E+03	6.6415E+C3
T	2.5123E+C1	5.1807E+01	5.5404E+C1
RHO	5.7701E+C0	3.7471E+01	4.8756E+C1
H	5.1589E+01	1.6105E+02	4.0218E+12
A	7.5545E+C0	9.3437E+C0	1.1069E+1
S	1.5103E+C0	1.3813E+C0	2.2451E+C0
Z	1.5556E+C0	2.1601E+C0	2.2857E+C0
GAME	1.0543E+C0	5.1051E-01	9.5400E-C1
U	1.9225E+C1	4.9064E+C0	4.7124E+C0

SPECIES	MULE FRACTIONS
E-	2.5602E-C3
HE	2.3550E-C2
HE+	5.6857E-10
HE++	1.5131E-30
H	5.6843E-C1
H+	2.5028E-C3
H2	7.0503E-C4

$$p_1 = 200 \text{ N/m}^2$$

PI = 2.00E+02 N/SEC-M, USI = 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.943E+02	4.257E+03	6.7239E+03
T	3.258E+01	5.363E+01	6.113E+01
RHO	5.289E+00	3.534E+01	4.698E+01
H	5.874E+01	1.723	2.1628E+2
A	8.056E+00	1.023	1.134E+01
S	1.9377E+00	2.01E+00	2.080E+00
Z	1.963E+00	2.18E+00	2.3409E+00
GAME	1.014E+00	8.572E-01	8.950E-01
U	1.940E+01	4.754E+00	4.7775E+00

PI = 2.00E+02 N/SEC-M, USI = 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7310E+02	5.4740E+03	8.4408E+03
T	4.1823E+01	6.1170E+01	6.6748E+01
RHO	5.0107E+00	3.7550E+01	4.7452E+01
H	1.2457E+02	4.2480E+02	2.7787E+02
A	8.7798E+00	1.1429E+01	1.2265E+01
S	2.0345E+00	2.1239E+00	2.2016E+00
Z	2.0514E+00	2.3929E+00	2.5774E+00
GAME	8.0520E-01	8.0594E-01	9.0527E-01
U	2.2055E+01	5.3037E+00	5.1766E+00

PI = 2.00E+02 N/SEC-M, USI = 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7310E+02	5.4740E+03	8.4408E+03
T	4.1823E+01	6.1170E+01	6.6748E+01
RHO	5.0107E+00	3.7550E+01	4.7452E+01
H	1.2457E+02	4.2480E+02	2.7787E+02
A	8.7798E+00	1.1429E+01	1.2265E+01
S	2.0345E+00	2.1239E+00	2.2016E+00
Z	2.0514E+00	2.3929E+00	2.5774E+00
GAME	8.0520E-01	8.0594E-01	9.0527E-01
U	2.2055E+01	5.3037E+00	5.1766E+00

PI = 2.00E+02 N/SEC-M, USI = 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7310E+02	5.4740E+03	8.4408E+03
T	4.1823E+01	6.1170E+01	6.6748E+01
RHO	5.0107E+00	3.7550E+01	4.7452E+01
H	1.2457E+02	4.2480E+02	2.7787E+02
A	8.7798E+00	1.1429E+01	1.2265E+01
S	2.0345E+00	2.1239E+00	2.2016E+00
Z	2.0514E+00	2.3929E+00	2.5774E+00
GAME	8.0520E-01	8.0594E-01	9.0527E-01
U	2.2055E+01	5.3037E+00	5.1766E+00

PI = 2.00E+02 N/SEC-M, USI = 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7310E+02	5.4740E+03	8.4408E+03
T	4.1823E+01	6.1170E+01	6.6748E+01
RHO	5.0107E+00	3.7550E+01	4.7452E+01
H	1.2457E+02	4.2480E+02	2.7787E+02
A	8.7798E+00	1.1429E+01	1.2265E+01
S	2.0345E+00	2.1239E+00	2.2016E+00
Z	2.0514E+00	2.3929E+00	2.5774E+00
GAME	8.0520E-01	8.0594E-01	9.0527E-01
U	2.2055E+01	5.3037E+00	5.1766E+00

PI = 2.00E+02 N/SEC-M, USI = 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.7310E+02	5.4740E+03	8.4408E+03
T	4.1823E+01	6.1170E+01	6.6748E+01
RHO	5.0107E+00	3.7550E+01	4.7452E+01
H	1.2457E+02	4.2480E+02	2.7787E+02
A	8.7798E+00	1.1429E+01	1.2265E+01
S	2.0345E+00	2.1239E+00	2.2016E+00
Z	2.0514E+00	2.3929E+00	2.5774E+00
GAME	8.0520E-01	8.0594E-01	9.0527E-01
U	2.2055E+01	5.3037E+00	5.1766E+00

PI = 2.00E+02 N/SEC-M, USI = 3.20E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P			

PI = 2.00E+02 N/SEC-M, USL = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3546E+02	4.4627E+03	6.9831E+03
T	3.5471E+04	5.5521E+01	6.2908E+01
RHO	9.0511E+00	3.6061E+01	4.6336E+01
M	1.0578E+02	1.3445E+02	2.3048E+02
A	8.2234E+00	1.0527E+01	1.1644E+01
S	1.5631E+00	2.0402E+00	2.1115E+00
Z	1.5753E+02	2.2290E+00	2.3956E+00
GAME	9.6313E-01	3.9541E-01	8.9562E-01
U	2.5034E+01	5.3248E+00	4.8555E+00

SPECIES ----- MOLF FRACTIONS -----

E-	1.5008E-02	1.2530E-01	1.8611E-01
HE	2.5251E-02	2.2357E-02	2.0730E-02
FE+	4.4775E-04	3.4849E-05	1.4168E-04
HE++	1.6195E-29	1.2705E-17	2.6278E-15
H	5.4434E-01	7.2866E-01	8.0654E-01
H+	1.5037E-02	1.2526E-01	1.8597E-01
H2	2.6325E-04	1.4381E-04	1.0073E-04

PI = 2.00E+02 N/SEC-M, USL = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7414E+02	4.7447E+03	7.3711E+03
T	3.7655E+01	5.7402E+01	6.4760E+01
RHO	9.6112E+00	3.6288E+01	4.6372E+01
M	1.3318E+02	1.3726E+02	2.4583E+02
A	8.3502E+00	1.0810E+01	1.1947E+01
S	1.3375E+00	2.0654E+00	2.1417E+00
Z	1.5559E+00	2.2776E+00	2.4535E+00
GAME	9.3031E-04	3.0475E-01	9.0055E-01
U	2.2700E+01	5.1144E+00	4.9541E+00

SPECIES ----- MOLF FRACTIONS -----

E-	2.5105E-02	1.4403E-01	2.0531E-01
HE	2.5002E-02	2.1839E-02	2.0181E-02
FE+	1.7035E-07	5.3105E-05	2.0156E-04
HE++	1.3336E-26	6.01E-17	3.9333E-15
H	9.2460E-01	6.9911E-01	5.6511E-01
H+	2.5153E-02	1.4364E-01	4.0512E-01
H2	1.3591E-04	1.2166E-04	8.4748E-05

PI = 2.00E+02 N/SEC-M, USL = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.7478E+02	6.3527E+03	9.6862E+03
T	4.5046E+01	6.4948E+01	7.2889E+01
RHO	9.1549E+00	3.4209E+01	4.9012E+01
M	1.4505E+02	2.5455E+02	3.1438E+02
A	9.1724E+00	1.2014E+01	1.3412E+01
S	2.3806E+00	2.1792E+00	2.2611E+00
Z	2.1130E+00	2.4558E+00	4.7086E+00
GAME	8.8400E-01	8.7931E-01	9.1119E-01
U	2.3353E+01	5.5210E+00	5.4259E+00

SPECIES ----- MOLF FRACTIONS -----

E-	7.7209E-02	2.1870E-01	2.8011E-01
HE	2.3669E-02	1.9813E-02	1.7754E-02
FE+	3.3321E-06	2.2034E-04	6.6612E-04
HE++	9.7597E-22	1.1934E-14	8.3555E-13
H	8.2184E-01	5.4254E-01	4.2194E-01
H+	7.7209E-02	2.1870E-01	2.7544E-01
H2	8.4573E-05	6.5800E-05	4.2234E-05

PI = 2.00E+02 N/SEC-M, USL = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.2335E+02	7.3549E+03	1.1156E+04
T	4.7813E+01	6.8737E+01	7.7302E+01
RHO	9.4272E+00	4.3714E+01	5.0668E+01
M	1.6263E+02	2.8833E+02	3.5300E+02
A	5.5727E+00	1.2748E+01	1.4222E+01
S	2.1266E+00	2.3465E+00	2.3221E+00
Z	2.1810E+00	2.6152E+00	2.8484E+00
GAME	8.7635E-01	9.4092E-01	5.1856E-01
U	2.4552E+01	5.7623E+00	5.7123E+00

SPECIES ----- MOLF FRACTIONS -----

E-	1.4633E-01	2.5441E-01	3.1544E-01
HE	2.5505E-02	1.8719E-02	1.6400E-02
FE+	6.3154E-06	3.9943E-04	1.1534E-03
HE++	2.5083E-20	1.0538E-13	6.7078E-12
H	4.7440E-01	3.5268E-01	3.5268E-01
H+	1.0625E-01	4.5401E-01	3.1429E-01
H2	6.3403E-05	4.9146E-05	2.8577E-05

$p_1 = 200 \text{ N/m}^2$

PI = 2.00E+02 V/50-M, USL = 4.40E+C4 M/SEC			
	MOVING SPOCK	STANDING SHOCK	REFLECTED SPOCK
P	1.4823E+03	1.2154E+C4	1.8549E+04
T	5.7242E+01	8.5081E+01	9.5245E+C1
RHO	1.0329E+01	4.5783E+01	5.4521E+C1
H	4.4291E+04	4.3195E+02	5.3518E+C2
A	1.1238E+01	1.5774E+01	1.8164E+C1
S	4.3148E+00	2.4580E+00	2.5667E+C0
Z	2.5659E+00	3.1305E+C0	3.4281E+C0
GAME	8.7515E+01	9.3420E+01	9.6575E+C1
U	3.0665E+C1	6.5671E+00	7.2101E+C0
SPECIES	----- MOLE FRACTIONS -----		
E-	2.2259E-C1	3.7710E-01	4.3118E-C3
HE	1.5830E-C2	1.3203E-02	7.8724E-C3
HE+	5.4167E-C3	2.7690E-C3	6.7129E-C3
HE++	1.5747E-16	1.8884E-10	1.3201E-C8
H	5.3418E-01	2.3258E-C1	1.2577E-C1
H+	2.2289E-C1	3.7434E-01	4.2446E-C1
H2	2.0039E-C5	1.0403E-C5	3.3314E-C5

PL = 2.00E+02 N/SEC-M, USL = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.221E+03	9.534E+03	1.571E+04
T	5.274E+01	7.055E+01	8.705E+01
RHO	9.00E+00	4.337E+01	5.332E+01
H	2.00E+00	3.55E+02	4.363E+02
A	1.739E+01	1.418E+01	1.030E+01
S	2.21E+00	2.34E+00	2.444E+00
Z	2.36E+00	2.358E+00	3.132E+00
GAME	6.75E+01	5.16E+01	5.37E+01
U	2.53E+01	5.31E+00	6.37E+00

SPECIES ----- MOLF FRACTIONS -----

SPECIES	MOLF FRACTIONS
E-	1.054E-01
HE	2.13E-02
HE+	1.32E-03
HE++	5.6E-13
H	5.47E-01
H+	1.054E-01
H2	3.7E-02

PL = 2.00E+02 N/SEC-M, USL = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.34E+03	1.28E+04	1.64E+04
T	5.02E+01	4.7E+01	9.27E+01
RHO	1.12E+01	4.97E+01	5.41E+01
H	2.21E+01	3.28E+02	4.85E+02
A	1.05E+01	1.45E+01	1.70E+01
S	2.26E+00	2.40E+00	2.50E+00
Z	2.40E+00	2.38E+00	3.28E+00
GAME	3.77E+01	4.24E+01	9.51E+01
U	2.95E+01	4.52E+00	6.76E+00

SPECIES ----- MOLF FRACTIONS -----

SPECIES	MOLF FRACTIONS
E-	1.94E-01
HE	2.05E-02
HE+	5.71E-05
HE++	3.10E-13
H	3.50E+01
H+	1.94E+01
H2	2.96E-02

PL = 2.00E+02 N/SEC-M, USL = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.624E+03	1.354E+04	2.07E+04
T	5.94E+01	8.93E+01	1.072E+02
RHO	1.05E+01	4.52E+01	5.432E+01
H	2.654E+02	4.72E+02	5.807E+02
A	1.678E+01	1.664E+01	1.920E+01
S	2.361E+00	2.513E+00	2.627E+00
Z	2.61E+00	3.261E+00	3.545E+00
GAME	8.81E+01	9.45E+01	9.97E+01
U	3.23E+01	7.34E+00	7.74E+00

SPECIES ----- MOLF FRACTIONS -----

SPECIES	MOLF FRACTIONS
E-	2.50E-01
HE	1.50E-02
HE+	1.49E-03
HE++	9.93E-15
H	4.75E-01
H+	3.97E-01
H2	1.78E-05

PL = 2.00E+02 N/SEC-M, USL = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.771E+03	1.453E+04	2.312E+04
T	6.12E+01	9.50E+01	1.17E+02
RHO	1.36E+01	4.63E+01	5.43E+01
H	2.85E+02	5.10E+02	6.46E+02
A	1.21E+01	1.74E+01	2.10E+01
S	2.41E+00	2.58E+00	2.68E+00
Z	2.67E+00	3.38E+00	3.68E+00
GAME	8.93E+01	9.55E+01	1.03E+02
U	3.37E+01	7.76E+00	8.41E+00

SPECIES ----- MOLF FRACTIONS -----

SPECIES	MOLF FRACTIONS
E-	2.77E-01
HE	1.63E-02
HE+	2.25E-04
HE++	5.34E-15
H	4.27E+01
H+	2.76E+01
H2	1.35E-05

$$p_1 = 200 \text{ N/m}^2$$

P1 = 2.00E+02 N/SQ-M, US1= 5.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9243E+03	1.6323E+04	2.5653F+C4
T	6.3849E+01	1.0108E+02	1.3168E+C2
RHO	1.0777E+01	4.6029E+01	5.1606E+C1
M	3.1362E+02	5.5888E+C2	7.1018E+C2
H	1.2602E+01	1.8639E+11	2.3307E+11
S	2.4612E+CC	2.6228E+00	2.7488F+C0
Z	2.7565E+0C	3.5C84E+00	3.7809E+C0
GAME	8.8545E-01	9.7961E-01	1.0911E+CC
U	3.5224E+01	8.2507E+00	9.3020E+C0

P1 = 2.00E+02 N/SQ-M, US1= 5.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6118E+03	2.0225E+04	3.4532E+C4
T	7.3984F+C1	1.2717E+C2	1.9697E+02
RHO	1.3966F+C1	4.2051E+01	4.4784E+01
M	9.326F+02	6.4773E+02	9.3201E+02
H	1.6133F+C1	2.2857E+01	2.9383E+01
S	2.6105F+00	2.7750E+00	2.908F+00
Z	3.1059F+00	3.7819E+00	3.8910E+00
GAME	9.3601F-01	1.0862F+00	1.1265E+00
U	3.9520F+01	1.0304F+01	1.2828F+01

SPECIES			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.0271E-C1	4.4419E-01	4.8425E-C1
HE	1.7533E-C2	6.5816E-03	1.2748F-C3
ME	3.4661E-C3	7.6609E-C3	1.1544E-02
HE+	2.4357E-14	2.5594E-08	5.6806E-C6
H+	3.7704E-C1	1.0503E-C1	3.0231E-C2
H+	3.0236E-C1	4.3635E-01	4.7429E-C1
H2	1.0192F-C5	1.8380E-C6	1.3497E-C7

P1 = 2.00E+02 N/SC-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0830E+03	1.7652E+04	2.8446E+04
T	6.6126E+01	1.0813E+02	1.5042E+02
RMD	1.0871E+01	4.5227E+01	4.9212E+01
M	3.3518E+02	6.3410E+02	7.7999E+02
A	1.3090E+01	1.9849E+01	2.5637E+01
S	2.5108E+00	2.6756E+00	2.8063E+00
Z	2.8578E+00	3.6178E+00	3.8406E+00
GAME	8.9418E-01	1.0071E+00	1.1363E+00
U	3.6665E+01	8.8149E+00	1.0408E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.2709E-01	4.6100E-01	4.9225E-01
HE	1.6739E-02	4.3159E-03	5.6520E-04
HE+	5.1570E-04	9.5044E-03	1.2399E-02
H	1.0527E-13	1.2966E-07	5.4661E-05
H+	3.2907E-01	7.3674E-02	1.4556E-02
M+	3.2657E-01	4.5150E-01	4.7574E-01
M2	7.4889E-06	8.3840E-07	2.8499E-08

P1 = 2.00E+02 N/SC-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2476E+03	1.9001E+04	3.1388E+04
T	5.8491E+01	1.1665E+02	1.7349E+02
RMD	1.0934E+01	4.3901E+01	4.6728E+01
M	3.6573E+02	6.5044E+02	8.5493E+02
A	1.3599E+01	2.1244E+01	2.7780E+01
S	2.5606E+00	2.7283E+00	2.8598E+00
Z	3.0012E+00	3.7105E+00	3.8717E+00
GAME	8.9966E-01	1.0437E+00	1.1489E+00
U	3.8098E+01	9.4972E+00	1.1648E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.5026E-01	4.7446E-01	4.9634E-01
HE	1.5900E-02	2.5182E-03	2.8388E-04
HE+	6.4024E-04	1.0957E-02	1.2196E-02
H	2.8357E-01	6.7750E-07	4.3412E-04
H+	3.4950E-01	4.8566E-02	7.4609E-03
M+	5.3619E-06	4.6350E-01	4.8328E-01
M2		3.3093E-07	6.0803E-09

P1 = 2.00E+02 N/SC-M, US1 = 5.85E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5935E+03	2.1333E+04	3.7231E+04
T	7.5253E+01	1.1966E+02	2.2032E+02
RMD	1.0968E+01	3.9887E+01	4.3217E+01
M	4.2178E+02	7.4576E+02	1.0108E+03
A	1.6697E+01	2.4517E+01	3.0949E+01
S	2.6404E+00	2.8204E+00	2.9506E+00
Z	3.2109E+00	3.8295E+00	3.9101E+00
GAME	9.1344E-01	1.1238E+00	1.1118E+00
U	4.0931E+01	1.1247E+01	1.3936E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.9270E-01	4.9380E-01	5.0129E-01
HE	1.1941E-02	7.0269E-04	7.9731E-05
HE+	1.6307E-03	1.2334E-02	7.4583E-03
H	7.5083E-12	2.0135E-05	5.2494E-03
H+	2.0064E-01	1.1124E-02	2.5908E-03
M+	3.9107E-01	4.7842E-01	4.8331E-01
M2	2.6797E-06	3.4350E-08	6.0013E-10

P1 = 2.00E+02 N/SC-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7747E+03	2.3209E+04	4.0029E+04
T	7.4642E+01	1.2414E+02	2.4379E+02
RMD	1.0934E+01	3.7507E+01	4.1815E+01
M	4.5129E+02	7.0423E+02	1.0902E+03
A	1.5200E+01	2.5123E+01	3.2880E+01
S	2.7102E+00	2.8444E+00	2.9002E+00
Z	3.3157E+00	3.8599E+00	3.9267E+00
GAME	9.2229E-01	1.1473E+00	1.1293E+00
U	4.2370E+01	1.2315E+01	1.6020E+01

SPECIES ----- MOLE FRACTIONS -----

E-	4.1189E-01	4.5448E-01	5.0340E-01
HE	1.2703E-02	2.8915E-04	7.3844E-05
HE+	2.2774E-03	1.2447E-02	4.1326E-03
H	1.7451E-11	1.0147E-04	8.4488E-03
H+	1.4353E-01	1.0248E-02	1.7240E-02
M+	4.0041E-01	4.8901E-01	4.8214E-01
M2	1.5277E-04	1.0201E-08	2.4783E-10

$$p_1 = 200 \text{ N/m}^2$$

p1 = 2.00E+02 N/5C-M, US1 = 6.20E+04 W/SEC				p1 = 2.00E+02 N/5C-M, US1 = 6.00E+04 W/SEC			
MOVING SPECIES		STANDING SHOCK	REFLECTED SHOCK	MOVING SPECIES		STANDING SHOCK	REFLECTED SHOCK
P	7.950E+02	2.310E+04	4.280E+04	P	7.547E+03	2.538E+04	5.032E+04
T	7.070E+01	1.694E+02	7.701E+02	T	9.247E+01	2.157E+02	2.600E+04
W	1.085E+01	1.529E+01	4.020E+01	W	1.705E+01	2.700E+01	2.641E+01
M	4.817E+02	8.478E+02	1.175E+02	M	5.787E+02	9.984E+02	1.447E+03
A	1.594E+01	7.742E+01	3.509E+01	A	1.862E+01	2.056E+01	4.100E+01
U	2.759E+00	2.403E+00	3.028E+00	U	2.907E+00	3.010E+00	2.212E+00
Z	1.182E+00	3.876E+00	7.979E+00	Z	1.579E+00	2.616E+00	3.947E+00
GAME	9.330E-01	1.150E+00	1.154E+00	GAME	9.227E-01	1.109E+00	1.1831E+00
U	4.371E+01	1.340E+01	1.608E+01	U	6.764E+01	1.478E+01	1.9479E+01
SPECIES				SPECIES			
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
F-	4.295E-01	4.965E-01	5.048E-01	F-	6.715E-01	5.017E-01	5.060E-01
HF	1.110E-02	7.243E-04	1.200E-04	HF	4.904E-03	5.413E-04	6.000E-03
ME+	3.435E-03	1.224E-02	1.517E-02	ME+	9.668E-03	7.125E-03	2.334E-04
ME++	1.381E-04	4.171E-04	1.076E-02	ME++	1.510E-08	5.591E-03	1.743E-02
H	2.291E-01	6.791E-03	1.159E-02	H	5.120E-02	1.571E-02	4.102E-04
M+	4.260E-01	4.898E-01	4.813E-01	M+	4.874E-01	4.809E-01	4.809E-01
M2	9.389E-07	7.222E-09	1.0479E-10	M2	1.173E-07	2.440E-07	1.5091E-01

P1 = 2.00E+02 N/SC-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7437E+02	2.5504E+04	5.2047E+04
T	0.8872E+01	7.3038E+02	3.9178E+02
QMO	1.0000E+01	2.8705E+01	3.2469E+01
M	6.1264E+02	1.0000E+02	1.5404E+02
A	1.9581E+01	7.1838E+01	4.2000E+01
S	2.0481E+00	3.0633E+00	3.1631E+00
Z	2.7432E+00	2.9758E+00	3.0482E+00
GAME	1.0000E+00	1.1208E+00	1.1842E+00
U	4.8054E+01	1.7403E+01	2.0872E+01

SPECIES ----- MOLE FRACTIONS -----

F-	4.9182E-01	5.0411E-01
HF	2.1770E-02	2.5545E-05
HE+	1.0428E-02	4.6709E-03
HE++	8.2020E-09	8.0705E-03
H	3.2768E-02	1.7295E-02
M+	4.7142E-01	4.8754E-01
M2	4.8120E-08	1.1550E-10

P1 = 2.00E+02 N/SC-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1111E+03	2.3995E+04	4.5600E+04
T	8.7389E+01	1.8502E+02	2.9871E+02
QMO	1.0774E+01	3.3300E+01	1.8712E+01
M	5.1317E+02	8.9431E+02	1.2435E+03
A	1.6664E+01	2.8571E+01	3.7177E+01
S	2.8084E+00	2.9407E+00	3.0443E+00
Z	2.5160E+00	3.0888E+00	3.0634E+00
GAME	9.4682E-01	1.1248E+00	1.1734E+00
U	4.5073E+01	1.4466E+01	1.7257E+01

SPECIES ----- MOLE FRACTIONS -----

F-	4.4544E-01	4.9854E-01	5.0550E-01
HF	9.7445E-03	1.5213E-04	4.1304E-06
HE+	4.8724E-03	1.1387E-02	8.7263E-04
HE++	4.2664E-10	1.3184E-03	1.1807E-07
H	9.9577E-02	4.7520E-03	7.0791E-04
M+	4.4067E-01	4.8453E-01	4.8102E-01
M2	4.2030E-07	1.2348E-09	4.6516E-11

P1 = 2.00E+02 N/SC-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2444E+03	2.4455E+04	4.8063E+04
T	8.7657E+01	2.0013E+02	3.2885E+02
QMO	1.0567E+01	3.1542E+01	3.7038E+01
M	5.4549E+02	9.4540E+02	1.3542E+03
A	1.7494E+01	2.9010E+01	3.0138E+01
S	2.8571E+00	2.9700E+00	3.0587E+00
Z	3.4106E+00	3.9009E+00	3.9461E+00
GAME	0.6577E-01	1.1148E+00	1.1804E+00
U	4.6388E+01	1.5473E+01	1.8487E+01

SPECIES ----- MOLE FRACTIONS -----

F-	4.5592E-01	5.0711E-01	5.0584E-01
HF	7.1578E-03	9.6478E-05	1.5940E-06
HE+	4.8924E-03	9.4744E-03	4.2772E-04
HE++	3.0372E-09	3.0947E-03	1.2242E-02
H	7.3000E-02	2.7717E-03	5.6533E-04
M+	4.5323E-01	4.8670E-01	4.8007E-01
M2	2.5971E-07	5.2473E-10	2.1807E-11

Table III. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.03E+02 N/50-M, US1 = 4.00E+03 M/SEC					P1 = 5.03E+02 N/50-M, US1 = 7.00E+03 M/SEC				
MOVING SHOCK					MOVING SHOCK				
STANDING SHOCK					STANDING SHOCK				
REFLECTED SHOCK					REFLECTED SHOCK				
SPECIES					SPECIES				
----- MOLE FRACTIONS -----					----- MOLE FRACTIONS -----				
L-					L-				
HE					HE				
HE+					HE+				
HE++					HE++				
H					H				
H+					H+				
H2					H2				
1.1124E+01					6.75+2E-19				
2.8249E+00					4.9970E-02				
3.9379E+00					1.3046E-44				
2.8881E+00					0.				
1.6757E+00					1.2119E-03				
1.3560E+00					7.3644E-19				
1.0000E+00					9.4492E-01				
9.9437E-01					1.1495E-13				
2.3176E+00					4.9344E-02				
2.3287E+01					3.7263E-33				
3.5083E+00					0.				
5.5823E+00					2.6225E-02				
3.6131E+00					7.8203E-02				
1.8651E+00					1.1495E-13				
1.0584E+00					9.2786E-12				
1.0000E+00					2.0015E-29				
9.8638E-01					0.				
1.3954E+00					1.7437E+00				
5.6541E+01					9.4093E-01				
4.9519E+00					1.4403E+00				
1.1418E+01									
5.1556E+00									
2.1875E+00									
1.3762E+00									
1.0000E+00									
9.6667E-01									
1.2213E+00									

P1 = 5.00E+02 N/50-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.752E+01	4.659E+01	1.020E+02
T	3.476E+00	5.161E+00	6.995E+00
RHC	4.526E+00	9.227E+00	1.457E+01
M	3.599E+00	5.433E+00	7.640E+00
A	1.949E+00	2.230E+00	2.550E+00
S	1.000E+00	1.000E+00	1.113E+00
Z	1.000E+00	1.000E+00	1.001E+00
GAPE	9.815E-01	9.637E-01	9.286E-01
U	3.025E+00	1.516E+00	1.364E+00

SPECIES ----- MILE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	7.38-2E-03	2.090E-27	3.856E-18
HE	5.000E-02	4.900E-02	4.994E-02
HE+	2.747E-00	6.574E-51	2.041E-39
HE++	0.	0.	0.
H	1.581E-07	3.307E-05	2.101E-03
H+	6.340E-20	9.345E-20	3.792E-19
H2	9.500E-01	3.495E-01	9.475E-01

P1 = 5.00E+02 N/50-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.542E+01	4.005E+01	1.501E+02
T	5.093E+00	7.035E+00	9.909E+00
RHC	4.540E+00	1.136E+01	1.795E+01
M	5.380E+00	7.703E+00	1.045E+01
A	2.216E+00	4.532E+00	2.792E+00
S	1.150E+00	1.126E+00	1.149E+00
Z	1.000E+00	1.001E+00	1.012E+00
GAPE	9.584E-01	9.250E-01	9.644E-01
U	3.725E+00	1.633E+00	1.441E+00

SPECIES ----- MILE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.700E-29	1.612E-17	1.594E-13
HE	4.900E-02	4.993E-02	4.918E-02
HE+	2.664E-52	3.022E-43	4.127E-33
HE++	0.	0.	0.
H	2.453E-07	2.569E-03	2.451E-02
H+	3.340E-20	1.004E-17	1.004E-13
H2	9.500E-01	9.475E-01	9.451E-01

P1 = 5.00E+02 N/50-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.607E+01	1.970E+02	3.285E+02
T	7.773E+00	1.011E+01	1.125E+01
RHC	5.892E+00	1.866E+01	2.605E+01
M	8.840E+00	1.332E+01	1.752E+01
A	2.632E+00	2.475E+00	3.192E+00
S	1.177E+00	1.195E+00	1.274E+00
Z	1.000E+00	1.004E+00	1.004E+00
GAPE	9.873E-01	9.330E-01	9.335E-01
U	5.150E+00	1.629E+00	1.445E+00

SPECIES ----- MILE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.021E-15	9.455E-12	1.412E-10
HE	4.971E-02	4.972E-02	4.915E-02
HE+	2.607E-57	2.622E-20	2.849E-26
HE++	0.	0.	0.
H	1.147E-02	8.258E-02	1.539E-01
H+	2.802E-15	9.455E-12	1.412E-10
H2	9.500E-01	8.600E-01	7.599E-01

P1 = 5.00E+02 N/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.525E+01	2.956E+02	4.645E+02
T	9.877E+00	1.125E+01	1.228E+01
RHC	5.577E+00	2.414E+01	3.312E+01
M	1.038E+01	1.773E+01	2.156E+01
A	2.705E+00	3.192E+00	3.415E+00
S	1.205E+00	1.233E+00	1.262E+00
Z	1.000E+00	1.000E+00	1.139E+00
GAPE	9.488E-01	8.321E-01	8.322E-01
U	5.421E+00	1.613E+00	1.464E+00

SPECIES ----- MILE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.354E-13	1.777E-10	1.333E-09
HE	4.977E-02	4.955E-02	4.995E-02
HE+	3.437E-33	3.403E-26	2.350E-24
HE++	0.	0.	1.410E-94
H	4.092E-02	1.617E-01	2.442E-01
H+	2.354E-13	1.777E-10	1.333E-09
H2	9.101E-01	7.922E-01	7.115E-01

Table III. - Continued

$$p_1 = 500 \text{ N/m}^2$$

P1 = 5.0CE+02 N/50-M, US1 = 1.60E+04 M/SEC				P1 = 5.0CE+02 N/50-M, US1 = 1.30E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	h	A	P	T	h	A
7.629E+01	1.227E+01	2.224E+01	1.319E+00	1.2954E+02	1.0281E+03	1.4597E+03	1.4597E+03
5.6574E+01	1.227E+01	2.224E+01	1.319E+00	1.1524E+01	1.5193E+01	1.6437E+01	1.6437E+01
7.3567E+01	1.227E+01	2.224E+01	1.319E+00	5.9494E+01	3.8579E+01	6.9579E+01	6.9579E+01
1.3341E+01	1.227E+01	2.224E+01	1.319E+00	2.20 JE+01	3.8579E+01	4.5766E+01	4.5766E+01
2.499E+01	1.227E+01	2.224E+01	1.319E+00	3.3195E+00	4.2092E+00	4.5692E+00	4.5692E+00
1.234E+01	1.227E+01	2.224E+01	1.319E+00	1.3371E+00	1.4115E+00	1.4603E+00	1.4603E+00
1.645E+01	1.227E+01	2.224E+01	1.319E+00	1.1597E+00	1.3603E+00	1.4660E+00	1.4660E+00
8.523E+01	1.227E+01	2.224E+01	1.319E+00	9.245E+01	9.5346E+01	9.5346E+01	9.5346E+01
6.713E+01	1.227E+01	2.224E+01	1.319E+00	5.0342E+00	1.7736E+00	1.7241E+00	1.7241E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	6.6E-12	1.4246E-09	7.5101E-05	E-	6.414E-10	1.0249E-07	3.9499E-07
He	7.7E-12	7.3602E-02	4.1453E-02	He	4.3116E-02	3.6548E-02	3.6106E-02
H2	3.4E-11	3.7856E-01	1.8026E-22	H2	1.2966E-25	9.2999E-20	2.0544E-18
H+	5.0E-11	2.0076E-01	2.2705E-19	ME+	3.812CE-91	7.72C7E-71	8.9927E-66
H	8.7E-12	7.5432E-01	3.4187E-01	H	2.7534E-01	5.9C7E-01	6.3575E-01
H+	4.6E-11	1.4746E-09	7.5101E-09	H+	6.1414E-10	1.0288E-07	3.8499E-07
H2	8.6E-11	7.3395E-01	6.1468E-01	H2	6.9154E-01	4.2539E-01	3.3314E-01

P1 = 5.00E+02 M/SQ-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.511VE+02	1.2925E+03	1.8232E+03
T	1.205HE+01	1.6194E+01	1.7669E+01
RHO	1.0376E+01	5.4764E+01	6.5764E+01
H	2.5693E+01	4.4953E+01	5.3241E+01
A	3.4704E+00	4.5155E+00	4.9462E+00
S	1.3762E+00	1.4608E+00	1.5141E+00
Z	1.2085E+00	1.4575E+00	1.5691E+00
GAME	9.2652E-01	9.0389E-01	9.8245E-01
U	9.8234E+00	1.8618E+00	1.8403E+00

SPECIES	MOLE FRACTIONS
E-	1.8409E-09
HE	4.1375E-02
HE+	1.0057E-24
HE++	1.7365E-87
H	3.4409E-01
H+	1.8409E-09
H2	6.1363E-01
	3.3795E-01
	1.2213E-06
	3.1666E-02
	3.2598E-17
	1.1403E-01
	7.2536E-01
	1.2213E-06
	2.4278E-01

P1 = 5.00E+02 M/SQ-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7644E+02	1.5947E+03	2.2330E+03
T	1.2575E+01	1.7290E+01	1.9165E+01
RHO	1.0953E+01	5.9041E+01	6.9512E+01
H	2.9145E+01	5.1780E+01	6.1403E+01
A	3.6280E+00	4.8543E+00	5.3955E+00
S	1.4130E+00	1.5111E+00	1.5690E+00
Z	1.2620E+00	1.5523E+00	1.6774E+00
GAME	9.2955E-01	8.7786E-01	9.0623E-01
U	1.0588E+01	1.9722E+00	1.9889E+00

SPECIES	MOLE FRACTIONS
E-	4.8362E-09
HE	3.5620E-02
HE+	1.4961E-17
HE++	4.9350E-84
H	4.1521E-01
H+	4.8362E-09
H2	5.4317E-01
	2.5616E-01
	4.3534E-06
	2.9835E-02
	6.3190E-16
	2.5611E-56
	8.0777E-01
	4.0334E-06
	1.6242E-01

P1 = 5.00E+02 M/SQ-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1040E+01	5.8270E+02	9.7035E-02
T	1.0334E+01	1.4255E+01	1.4249E+01
RHO	1.1041E+01	2.7070E+01	4.7423E+01
H	1.0334E+01	2.7070E+01	3.2675E+01
A	1.0334E+01	3.6067E+00	3.9336E+00
S	1.2670E+00	1.3378E+00	1.3584E+00
Z	1.0770E+00	1.2105E+00	1.2836E+00
GAME	9.2580E-01	9.3750E-01	9.4520E-01
U	7.4900E+00	1.6555E+00	1.0590E+00

SPECIES	MOLE FRACTIONS
E-	3.5201E-11
HE	7.6779E-09
HE+	9.1304E-02
HE++	1.7253E-22
H	2.5619E-91
H+	1.4420E-01
H2	7.6779E-09
	6.1394E-01
	3.2216E-09
	3.8953E-02
	5.8554E-71
	2.3545E-75
	4.4198E-01
	3.2316E-09
	5.1016E-01

P1 = 5.00E+02 M/SQ-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0944E+02	7.6439E+02	1.1410E+03
T	1.0301E+01	1.4213E+01	1.5333E+01
RHO	1.0950E+01	4.3461E+01	5.4343E+01
H	1.8930E+01	3.2561E+01	3.8916E+01
A	3.1740E+00	3.6278E+00	4.2378E+00
S	1.3010E+00	1.3637E+00	1.4083E+00
Z	1.1150E+00	1.2856E+00	1.3706E+00
GAME	9.2301E-01	9.4442E-01	9.5447E-01
U	8.2770E+00	1.7044E+00	1.6305E+00

SPECIES	MOLE FRACTIONS
E-	1.6540E-10
HE	7.4900E-02
HE+	6.5340E-27
HE++	3.3024E-78
H	2.0771E-01
H+	1.6540E-10
H2	7.4745E-01
	3.0125E-09
	6.1733E-01
	4.2292E-01
	1.1713E
	3.6485E-02
	1.2234E-19
	2.4919E-70
	5.4059E-01
	1.1713E-07
	4.2292E-01

Table III. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SQ-M, US1 = 1.60E+04 M/SEC				P1 = 5.00E+02 N/SQ-M, US1 = 1.90E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.9926E+02	1.8994E+03	2.6915E+03	P	2.8301E+22	2.8751E+03	4.4560E+03
T	1.3095E+01	1.8544E+01	2.1157E+01	T	1.4691E+01	2.5435E+01	3.7729E+01
RHD	1.1536E+01	6.2057E+01	7.1213E+01	RHG	1.2684E+01	5.9424E+01	6.0405E+01
M	3.3047E+01	5.9046E+01	7.0382E+01	M	4.6254E+01	9.3127E+01	1.0544E+02
A	3.7942E+00	5.2407E+00	5.9852E+00	A	4.3563E+00	7.1694E+00	8.8294E+00
S	1.4531E+00	1.5619E+00	1.6247E+00	S	1.5807E+00	1.7060E+00	1.7407E+00
Z	1.3200E+00	1.6508E+00	1.7864E+00	Z	1.5182E+00	1.6022E+00	1.9552E+00
GAME	8.3343E-01	8.9721E-01	9.4781E-01	GAME	9.5089E-01	1.0624E+00	1.0568E+00
U	1.1347E+01	2.1095E+00	2.1919E+00	U	1.3592E+01	2.9042E+00	3.6139E+00
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	1.1583E-08	2.6694E-06	1.5964E-05	E-	1.1860E-07	1.6118E-04	0.0944E-03
HE	3.7878E-02	3.0299E-02	2.7990E-02	HE	3.2933E-02	2.6295E-02	2.5573E-02
HE+	1.0935E-22	1.9894E-16	1.6985E-14	HE+	2.5502E-20	4.4472E-12	3.8789E-09
HE++	7.6245E-91	3.6907E-59	6.2493E-51	HE++	6.1264E-73	4.0347E-42	7.7286E-28
H	4.8487E-01	7.8844E-01	8.8036E-01	H	6.8267E-01	4.4111E-01	9.5802E-01
H+	1.1583E-08	2.6694E-06	1.5964E-05	H+	1.1860E-07	1.6118E-04	6.0903E-03
H2	4.7725E-01	1.8127E-01	9.1617E-02	H2	2.8440E-01	2.5286E-02	3.4250E-03

P1 = 5.00E+02 N/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1391E+02	3.1541E+03	5.0795E+03
T	1.5207E+01	2.0906E+01	4.1511E+01
RHO	1.2896E+01	5.4426E+01	5.4052E+01
H	5.1155E+01	9.1670E+01	1.1812E+02
A	4.5749E+00	8.0299E+00	9.2595E+00
S	1.6246E+00	1.7477E+00	1.8183E+00
Z	1.5913E+00	1.5333E+00	1.9799E+00
GAME	8.5981E-01	1.1120E+00	7.0505E-01
U	1.4327E+01	1.1057E+00	4.0110E+00

SPECIES ----- MILE FRACTIONS -----

E-	2.5145E-07	9.0255E-24	1.6954E-02
HE	3.1426E-02	2.5054E-02	2.5254E-02
HE+	1.5650E-19	3.0084E-10	4.9109E-07
H	4.8979E-70	1.7349E-35	7.3023E-24
H+	7.6204E-01	9.0312E-01	9.3947E-01
H2	2.5145E-07	5.0255E-24	1.6954E-02
	2.5255E-07	9.0255E-24	1.6954E-02

P1 = 5.00E+02 N/SQ-M, US1 = 2.13E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4621E+02	3.4130E+03	5.6677E+03
T	1.5937E+01	3.4072E+01	4.9723E+01
RHO	1.2998E+01	5.0263E+01	5.3422E+01
H	5.6209E+01	1.0050E+02	1.3609E+02
A	4.8150E+00	8.5853E+00	9.6350E+00
S	1.6690E+00	1.7437E+00	1.9512E+00
Z	1.6003E+00	1.4454E+00	2.0112E+00
GAME	8.7101E-01	1.0911E+00	7.6319E-01
U	1.5055E+01	1.0975E+00	4.2809E+00

SPECIES ----- MILE FRACTIONS -----

E-	5.4942E-07	3.0719E-03	3.1673E-02
HE	3.0012E-02	2.5649E-02	2.5649E-02
HE+	1.3057E-19	9.5520E-09	2.5649E-06
H	4.8952E-67	1.0905E-30	2.1336E-21
H+	7.9052E-01	9.5303E-01	9.1353E-01
H2	5.4844E-07	3.6719E-03	3.1673E-02
	1.7647E-01	3.9754E-03	1.2672E-03

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

P1 = 5.00E+02 N/SQ-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2566E+02	2.2302E+03	3.2119E+03
T	1.3601E+01	2.0090E+01	2.4502E+01
RHO	1.2004E+01	6.3485E+01	6.9679E+01
A	3.7200E+00	6.6736E+00	8.0574E+00
S	3.9696E+00	5.7070E+00	6.8989E+00
Z	1.4946E+00	1.6123E+00	1.6908E+00
GAME	1.3823E+00	1.7487E+00	1.8813E+00
U	8.3916E-01	9.2710E-01	1.0325E+00
	1.2102E+01	2.2886E+00	2.5171E+00

SPECIES ----- MILE FRACTIONS -----

E-	2.6024E-08	8.3875E-06	9.7841E-05
HE	3.6172E-02	2.8593E-02	2.6577E-02
HE+	7.1506E-22	3.1335E-15	1.4518E-12
H	6.7338E-78	7.8654E-54	4.4504E-44
H+	5.5310E-01	8.5624E-01	9.3661E-01
H2	2.6024E-08	8.3875E-06	9.7841E-05
	4.1072E-01	1.1515E-01	3.6613E-02

P1 = 5.00E+02 N/SQ-M, US1 = 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5358E+02	2.5619E+03	3.8142E+03
T	1.4131E+01	2.2213E+01	3.0577E+01
RHO	1.2369E+01	6.2765E+01	6.4532E+01
H	4.1631E+01	7.4739E+01	9.2559E+01
A	4.1566E+00	6.3225E+00	8.1076E+00
S	1.5372E+00	1.6612E+00	1.7349E+00
Z	1.4485E+00	1.8376E+00	1.9330E+00
GAME	9.4387E-01	9.7932E-01	1.1137E+00
U	1.2850E+01	2.5389E+00	3.0551E+00

SPECIES ----- MILE FRACTIONS -----

E-	5.6149E-09	3.1797E-05	1.0018E-03
HE	3.4519E-02	2.7210E-02	2.5867E-02
HE+	4.3241E-21	8.1747E-14	4.5372E-10
H	3.3839E-75	2.1828E-49	8.1899E-35
H+	6.1922E-01	9.1150E-01	9.6233E-01
H2	5.6149E-09	3.1797E-05	1.0018E-03
	3.4626E-01	6.1225E-02	9.7990E-03

$$p_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SQ-M, US1 = 2.50E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7981E+02	3.6639E+03	6.2079E+03
T	1.6811E+01	3.9613E+01	5.1857E+01
RHO	1.2974E+01	4.7065E+01	5.8466E+01
H	6.1686E+01	1.0973E+02	1.4334E+02
A	5.1343E+00	8.0335E+00	9.9962E+00
S	1.7144E+00	1.9164E+00	1.8826E+00
Z	1.7416E+00	1.9652E+00	2.0475E+00
GAME	8.8984E-01	1.0252E+00	9.4109E-01
U	1.5767E+01	4.3491E+00	4.4960E+00
SPECIES	MOLE FRACTIONS		
E-	1.2814E-06	9.8949E-03	4.9586E-02
HE	2.8709E-02	2.5443E-02	2.4412E-02
HE+	7.0732E-18	1.0821E-07	7.0808E-06
HE++	6.7325E-64	2.6022E-26	1.1202E-19
H	8.5165E-01	9.5200E-01	8.7747E-01
H+	1.2814E-06	9.8949E-03	4.9579E-02
H2	1.1964E-01	2.1710E-03	9.4695E-04

P1 = 5.00E+02 N/SQ-M, US1 = 2.50E+04 N/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.9489E+02	4.1172E+03	6.9594E+03
T	2.1942E+01	4.9897E+01	6.0112E+01
RHC	1.1453E+01	4.0369E+01	5.3253E+01
H	7.9236E+01	1.3962E+02	1.8108E+02
A	6.7256E+00	9.7725E+00	1.0959E+01
S	1.8414E+00	1.9105E+00	1.9779E+00
Z	1.9227E+00	2.6443E+00	2.1737E+00
GAME	9.3639E-01	9.3639E-01	9.1912E-01
U	5.0443E+00	5.0443E+00	4.8746E+00
SPECIES	MOLE FRACTIONS		
E-	6.3909E-05	4.6735E-02	1.0339E-01
HE	2.6005E-02	2.4457E-02	2.2952E-02
HE+	1.1644E-13	4.9137E-04	5.0052E-05
HE++	1.6447E-48	2.432E-20	1.2645E-16
H	9.5961E-01	8.8133E-01	7.6381E-01
H+	6.3909E-05	4.6730E-02	1.0333E-01
H2	1.4261E-02	7.3936E-04	4.7193E-04

P1 = 5.00E+02 N/SQ-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1448E+02	3.9333E+03	6.6576E+03
T	1.7885E+01	4.3645E+01	5.5067E+01
RHC	1.2769E+01	4.4984E+01	5.7923E+01
H	6.7316E+01	1.1943E+02	1.5607E+02
A	5.4548E+00	9.2264E+00	1.0340E+01
S	1.7586E+00	1.8475E+00	1.9133E+00
Z	1.8149E+00	1.9864E+00	2.3972E+00
GAME	9.2007E-01	9.8149E-01	9.3022E-01
U	1.6462E+01	4.4713E+00	4.6575E+00

SPECIES	MOLE FRACTIONS	
E-	3.4639E-06	1.9729E-02
HE	2.7550E-02	2.5170E-02
HE+	8.7715E-17	5.9312E-07
HE++	7.6431E-63	1.1459E-23
H	8.9803E-01	9.3397E-01
H+	3.4639E-06	1.9729E-02
H2	7.4446E-02	1.4007E-03

P1 = 5.00E+02 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4974E+02	4.0702E+03	6.9393E+03
T	1.9453E+01	4.7056E+01	5.7627E+01
RHC	1.2305E+01	4.2968E+01	5.6346E+01
H	7.3172E+01	1.2946E+02	1.6875E+02
A	5.5779E+00	9.5365E+00	1.0665E+01
S	1.8015E+00	1.8785E+00	1.9448E+00
Z	1.8792E+00	2.0131E+00	2.1297E+00
GAME	9.7767E-01	9.5406E-01	9.2356E-01
U	1.7122E+01	4.9009E+00	4.7836E+00

SPECIES	MOLE FRACTIONS	
E-	1.2239E-05	3.2331E-02
HE	2.6608E-02	2.4836E-02
HE+	1.9650E-15	1.9935E-06
HE++	7.0111E-55	9.0086E-22
H	9.3566E-01	9.3951E-01
H+	1.2239E-05	3.2331E-02
H2	3.7710E-02	9.9422E-04

P1 = 5.00E+02 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1971E+02	4.0695E+03	6.7851E+03
T	2.5472E+01	3.2277E+01	6.1986E+01
RHC	1.0509E+01	3.7452E+01	4.9353E+01
H	8.5494E+01	1.4981E+02	1.9335E+02
A	7.4761E+00	1.0323E+01	1.1222E+01
S	1.8771E+00	1.9434E+00	2.0115E+00
Z	1.9416E+00	2.0790E+00	2.2191E+00
GAME	1.1301E+00	5.2486E-01	9.1632E-01
U	1.8269E+01	5.1243E+00	4.9399E+00

SPECIES	MOLE FRACTIONS	
E-	3.9016E-04	6.2171E-02
HE	2.5752E-02	2.4052E-02
HE+	1.0575E-11	9.8339E-06
HE++	2.0609E-41	2.6212E-19
H	9.6875E-01	8.5136E-01
H+	3.9016E-04	6.2171E-02
H2	4.7210E-03	5.6558E-04

P1 = 5.00E+02 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5544E+02	4.0469E+03	6.6578E+03
T	2.9351E+01	3.4425E+01	6.3758E+01
RHC	9.6924E+00	3.5100E+01	4.6118E+01
H	9.1973E+01	1.6032E+02	2.0531E+02
A	7.6607E+00	1.0275E+01	1.1488E+01
S	1.9386E+00	1.9751E+00	2.0435E+00
Z	1.9491E+00	2.1148E+00	2.2442E+00
GAME	1.1054E+00	9.1733E-01	9.1413E-01
U	1.8804E+01	5.1823E+00	5.0354E+00

SPECIES	MOLE FRACTIONS	
E-	1.7749E-03	7.3366E-02
HE	2.5643E-02	2.3626E-02
HE+	4.5519E-10	1.7449E-05
HE++	1.8386E-35	2.0381E-19
H	9.6994E-01	9.1920E-01
H+	1.7749E-03	7.3366E-02
H2	1.9628E-03	4.4634E-04

Table III. - Continued

$$P_1 = 500 \text{ N/m}^2$$

P1 = 5.00E+02 N/SQ-M, US1 = 2.82E+04 M/SEC				P1 = 5.00E+02 N/SQ-M, US1 = 3.20E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.9328E+02	4.1170E+03	6.6893E+03	P	7.6931E+02	5.1508E+03	9.1414E+03
T	3.3095E+01	5.0515E+01	6.5594E+01	T	4.3548E+01	6.4041E+01	7.4065E+01
RHO	9.1555E+00	3.2911E+01	4.4134E+01	RHO	8.6751E+00	3.3947E+01	4.3339E+01
H	9.9711E+01	1.7144E+02	2.1830E+02	H	1.2845E+02	2.2206E+02	2.8013E+02
A	8.2335E+00	1.0541E+01	1.1770E+01	A	9.0150E+00	1.1756E+01	1.3134E+01
Z	1.9367E+00	2.0052E+00	2.0759E+00	Z	2.0330E+00	2.1156E+00	2.1937E+00
S	1.9580E+00	2.1545E+00	2.3126E+00	S	2.0364E+00	2.3410E+00	2.5763E+00
GAPE	1.0461E+02	5.1259E+01	9.1341E+01	GAPE	9.1644E+01	9.3926E+01	9.1883E+01
U	1.9371E+01	5.2405E+00	5.0740E+00	U	2.1990E+01	5.6129E+00	5.4999E+00
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
E-	5.3643E-03	9.5295E-02	1.5705E-01	E-	4.2665E-02	1.6720E-01	2.3129E-01
HE	2.5528E-02	2.7178E-02	2.7171E-02	HE	2.4552E-02	2.1207E-02	1.9194E-02
HE+	6.9143E-09	2.9049E-05	1.4927E-04	HE+	1.2740E-03	1.3172E-04	5.3001E-04
HE++	3.3569E-31	1.2389E-17	5.5226E-15	HE++	5.2021E-23	5.2312E-15	6.3023E-13
H	9.6280E-01	7.8597E-01	6.6419E-01	H	8.8996E-01	6.4421E-01	5.1811E-01
H+	5.3623E-03	9.5266E-02	1.5690E-01	H+	4.2648E-02	1.6705E-01	2.3176E-01
H2	9.4459E-04	3.6305E-04	2.5157E-04	H2	2.5336E-04	1.8859E-04	1.2752E-04

P1 = 5.00E+02 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.336E+02	4.291E+03	6.999E+03
T	3.628E+01	5.860E+01	6.755E+01
RHC	9.957E+00	3.324E+01	4.313E+01
H	1.057E+02	1.832E+02	2.323E+02
A	8.427E+00	1.792E+01	1.209E+01
S	1.962E+00	2.033E+00	2.106E+00
Z	1.971E+00	2.197E+00	2.364E+00
GAME	9.928E-01	9.099E-01	9.137E-01
U	1.997E+01	5.318E+00	5.160E+00

SPECIES

MOLE FRACTIONS

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.162E-02	1.128E-01	1.754E-01
HE	2.535E-02	2.271E-02	2.094E-02
HE+	4.711E-08	4.617E-05	2.079E-04
HE++	3.407E-28	6.635E-17	1.978E-14
H	9.581E-01	7.513E-01	6.279E-01
H+	1.162E-02	1.127E-01	1.752E-01
H2	5.885E-04	3.025E-04	2.105E-04

P1 = 5.00E+02 N/SQ-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.765E+02	4.517E+03	7.211E+03
T	3.555E+01	6.770E+01	6.962E+01
RHC	9.736E+00	3.181E+01	4.282E+01
H	1.130E+02	1.959E+02	2.473E+02
A	9.617E+00	1.112E+01	1.212E+01
S	1.587E+00	2.061E+00	2.135E+00
Z	1.597E+00	2.242E+00	2.418E+00
GAME	9.550E-01	9.097E-01	9.149E-01
U	2.062E+01	5.409E+00	5.250E+00

SPECIES

MOLE FRACTIONS

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.037E-02	1.307E-01	1.939E-01
HE	2.510E-02	2.222E-02	2.038E-02
HE+	1.924E-07	7.073E-05	2.967E-04
HE++	5.444E-26	3.143E-16	6.426E-14
H	9.337E-01	7.160E-01	5.915E-01
H+	2.037E-02	1.306E-01	1.936E-01
H2	4.134E-04	2.508E-04	1.777E-04

P1 = 5.00E+02 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.098E+02	5.950E+03	9.315E+03
T	4.723E+01	6.912E+01	7.975E+01
RHC	8.792E+00	3.516E+01	4.442E+01
H	1.449E+02	2.523E+02	3.159E+02
A	9.430E+00	1.242E+01	1.352E+01
S	2.079E+00	2.109E+00	2.251E+00
Z	2.093E+00	2.447E+00	2.662E+00
GAME	9.953E-01	9.114E-01	9.245E-01
U	2.340E+01	5.950E+00	5.772E+00

SPECIES

MOLE FRACTIONS

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.994E-02	2.632E-01	2.676E-01
HE	2.307E-02	2.313E-02	1.784E-02
HE+	4.591E-06	4.939E-04	9.309E-04
HE++	5.413E-21	6.118E-14	5.288E-12
H	9.392E-01	5.732E-01	4.467E-01
H+	6.880E-02	2.029E-01	2.667E-01
H2	1.775E-04	1.406E-04	9.742E-05

P1 = 5.00E+02 N/SQ-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.779E+02	6.954E+03	1.068E+04
T	5.083E+01	7.340E+01	8.365E+01
RHC	9.591E+00	3.649E+01	4.570E+01
H	1.424E+02	2.937E+02	3.547E+02
A	9.931E+00	1.312E+01	1.455E+01
S	2.124E+00	2.221E+00	2.307E+00
Z	2.159E+00	2.559E+00	2.793E+00
GAME	9.917E-01	9.164E-01	9.316E-01
U	2.454E+01	6.119E+00	6.076E+00

SPECIES

MOLE FRACTIONS

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.684E-02	2.382E-01	3.020E-01
HE	2.314E-02	1.900E-02	1.634E-02
HE+	1.187E-05	5.274E-04	1.550E-03
HE++	1.760E-19	5.471E-13	3.797E-11
H	7.830E-01	5.044E-01	3.794E-01
H+	9.682E-02	2.376E-01	3.065E-01
H2	1.325E-04	1.045E-04	6.346E-05

Table III. - Continued

$$p_1 = 500 \text{ N/m}^2$$

P1 = 5.0CE+02 N/SQ--M, US1= 3.9UF+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0923E+03	7.9493E+03	1.2202E+04
T	5.0335E+01	7.7716E+01	8.8855E+01
RHO	9.1543E+00	3.7723E+01	4.6698E+01
H	1.8009E+02	3.1706E+02	3.9615E+02
A	1.0289E+01	1.3852E+01	1.5643E+01
S	2.1697E+00	2.2759E+00	2.3679E+00
Z	2.2289E+00	2.6776E+00	2.9300E+00
GAME	8.8967E-01	9.2206E-01	9.3994E-01
U	2.6297E+01	6.6035E+00	6.6039E+00
SPECIES	----- MOLF FRACTIONS -----		
E-	1.2538E-01	2.7191E-01	3.3452E-01
HE	2.2578E-02	1.7741E-02	1.4602E-02
HE+	2.5506E-05	8.7278E-04	2.4631E-04
H	2.9372E-19	4.7171E-19	2.4126E-19
H	7.2634E-01	4.3857E-01	3.1632E-01
H+	1.2575E-01	2.7052E-01	3.3205E-01
H2	1.0270E-04	7.6521E-05	4.2924E-05

P1 = 5.0CE+02 N/SQ--M, US1= 4.43F+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4744E+03	1.1257E+04	1.7579E+04
T	6.7194E+01	5.1374E+01	1.3747E+02
RHO	9.7496E+00	4.0450E+01	4.8873E+01
H	2.4267E+02	4.2797E+02	5.3730E+02
A	1.1626E+01	1.6213E+01	1.8766E+01
S	2.3072E+00	2.4351E+00	2.5431E+00
Z	2.4715E+00	3.0457E+00	3.3468E+00
GAME	8.9094E-01	9.4453E-01	9.7908E-01
U	3.6665E+01	7.3962E+00	7.6390E+00
SPECIES	----- MOLF FRACTIONS -----		
E-	2.1105E-01	3.5978E-01	4.1737E-01
HE	2.0051E-02	1.3194E-02	7.7951E-03
HE+	1.4021E-04	3.2201E-03	7.1444E-03
H	1.5823E-15	6.5478E-10	3.7876E-08
H	5.5775E-01	2.6721E-01	1.5746E-01
H+	2.1031E-01	3.5656E-01	4.1022E-01
H2	4.9352E-05	2.6299E-05	9.6462E-05

PI = 5.00E+02 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.213E+03	3.9251E+03	1.3964E+04
T	5.605E+01	8.2041E+01	5.4439E+01
RHO	5.39E+03	3.9360E+01	4.7933E+01
H	2.0051E+02	3.5225E+02	4.4732E+02
A	1.0714E+01	1.4603E+01	1.6593E+01
S	2.113E+00	2.3286E+00	2.4263E+00
Z	2.3064E+03	2.7777E+00	3.0640E+00
GAME	8.8803E-01	9.2495E-01	9.4994E-01
U	2.7751E+01	6.7347E+00	6.7759E+00

SPECIES	MOLE FRACTIONS
F-	1.5444E-01
HE	2.1634E-02
HE+	4.8509E-05
HE++	3.1171E-17
H	6.6940E-01
H+	1.5440E-01
H2	7.7045E-05
F-	1.0305E-01
HE	1.6444E-02
HE+	1.4292E-03
HE++	2.4520E-11
H	3.7741E-01
H+	3.0162E-01
H2	5.5265E-05

PI = 5.00E+02 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6144E+03	1.2500E+04	1.9633E+04
T	6.3680E+01	9.6443E+01	1.1557E+02
RHO	9.0368E+00	4.0955E+01	4.8419E+01
H	2.6519E+02	4.6828E+02	5.9065E+02
A	1.2074E+01	1.7095E+01	2.0074E+01
S	2.5537E+00	2.4880E+00	2.6012E+00
Z	2.5598E+00	3.1741E+00	3.4799E+00
GAME	8.5374E-01	9.5472E-01	1.0020E+00
U	3.2119E+01	7.7919E+00	9.1656E+00

SPECIES	MOLE FRACTIONS
F-	2.5827E-01
HE	1.9312E-02
HE+	2.2677E-03
HE++	9.5659E-15
H	5.0411E-01
H+	2.5935E-01
H2	3.8550E-05
F-	3.8489E-01
HE	1.1246E-02
HE+	4.5261E-03
HE++	7.9761E-09
H	2.1895E-01
H+	3.9337E-01
H2	1.7127E-05

PI = 5.00E+02 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3437E+03	1.0060E+04	1.5659E+04
T	5.8661E+01	9.6620E+01	1.0656E+02
RHO	9.5765E+00	3.9779E+01	4.8525E+01
H	2.2174E+02	3.8920E+02	4.8731E+02
A	1.1150E+01	1.5399E+01	1.7723E+01
S	2.2611E+00	2.3819E+00	2.4847E+00
Z	2.3867E+00	2.5411E+00	3.2087E+00
GAME	9.9807E-01	9.3597E-01	9.6246E-01
U	2.9211E+01	7.0349E+00	7.1822E+00

SPECIES	MOLE FRACTIONS
F-	4.8312E-01
HE	2.0925E-02
HE+	5.48E-05
HE++	2.4827E-16
H	6.1313E-01
H+	1.8244E-01
H2	6.2869E-05
F-	3.3249E-01
HE	1.4025E-02
HE+	2.1914E-03
HE++	1.3233E-13
H	3.2576E-01
H+	3.0033E-01
H2	3.8754E-05

PI = 5.00E+02 N/SQ-M, US1 = 4.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7631E+03	1.3762E+04	2.1816E+04
T	9.6164E+01	1.0191E+02	1.2550E+02
RHO	1.3033E+01	4.1525E+01	4.9250E+01
H	2.8872E+02	5.1018E+02	6.4782E+02
A	1.2546E+01	1.9315E+01	2.1615E+01
S	2.4006E+00	2.5433E+00	2.6590E+00
Z	2.6515E+00	3.2920E+00	3.6027E+00
GAME	8.5735E-01	9.6736E-01	1.0333E+00
U	3.3556E+01	9.2093E+00	9.8035E+00

SPECIES	MOLE FRACTIONS
F-	2.6459E-01
HE	1.9520E-02
HE+	3.3719E-03
HE++	4.1953E-14
H	4.5227E-01
H+	2.8425E-01
H2	2.9825E-05
F-	4.3767E-01
HE	9.1362E-03
HE+	6.0520E-03
HE++	1.2637E-09
H	1.7552E-01
H+	4.0162E-01
H2	1.0611E-05

Table III. - Continued

 $P_1 = 500 \text{ N/m}^2$

P1 = 5.00E+02 N/SQ-M, US1= 5.00E+04 M/SEC					P1 = 5.00E+02 N/SQ-M, US1= 5.60E+04 M/SEC				
		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P		1.9120E+03	1.5041E+04	2.4164E+04	P		2.4024E+03	1.8736E+04	3.2767E+04
T		6.8671E+01	1.0798E+02	1.3828E+02	T		7.6612E+01	1.3228E+02	1.9836E+02
RHO		1.0139E+01	4.0854E+01	4.7126E+01	RHO		1.0330E+01	3.8254E+01	4.1811E+01
H		3.1327E+02	5.5367E+02	7.0942E+02	H		3.9297E+02	6.5197E+02	9.2635E+02
A		1.3036E+01	1.9031E+01	2.3458E+01	A		1.4619E+01	2.2832E+01	2.9557E+01
S		2.4478E+02	2.5923E+00	2.7161E+00	S		2.5007E+00	2.7305E+00	2.8731E+00
Z		2.763E+00	3.4097E+00	3.7079E+00	Z		3.0420E+00	3.7029E+00	3.8665E+00
GAME		9.3121E-01	9.8367E-01	1.0732E+00	GAME		9.1730E-01	1.0643E+00	1.1390E+00
U		3.4999E+01	9.6885E+00	9.5925E+00	U		3.5265E+01	1.0574E+01	1.2845E+01
SPECIES		MOLE FRACTIONS			SPECIES		MOLE FRACTIONS		
E-		2.8990E-01	4.2811E-01	4.7410E-01	E-		3.5947E-01	4.7337E-01	4.9567E-01
HE		1.7706E-02	6.9956E-03	1.9358E-03	HE		1.9916E-02	2.0019E-03	3.8515E-04
HE+		5.0219E-04	7.6784E-03	1.1543E-02	HE+		1.5012E-03	1.1409E-02	1.1522E-02
HE++		1.8018E-13	5.1443E-08	5.7830E-06	HE++		3.3091E-06	3.3091E-06	1.6248E-03
H		4.0248E-01	1.3679E-01	4.9879E-02	H		2.6718E-01	5.1140E-02	9.3053E-03
H+		2.8939E-01	4.2043E-01	4.6254E-01	H+		3.5747E-01	4.6195E-01	4.8210E-01
H2		2.2782E-05	6.1623E-06	7.8508E-07	H2		9.0559E-06	4.0994E-07	1.0445E-08

PI = 5.00E+02 N/SQ-M, US1= 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0697E+03	1.6315E+04	2.6674E+04
T	7.1227E+01	1.1496E+02	1.5491E+02
RHO	1.0221E+01	4.0352E+01	4.5505E+01
H	3.3880E+02	5.9959E+02	7.7724E+02
A	1.3543E+01	2.0157E+01	2.5555E+01
S	2.4952E+00	2.6627E+00	2.7716E+00
Z	2.8429E+00	3.5203E+00	3.7863E+00
GAME	9.0584E-01	1.0050E+00	1.1141E+00
U	3.6430E+01	9.2253E+00	1.0598E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.1410E-01	4.4603E-01	4.8499E-01
HE	1.6854E-02	4.9843E-03	1.0749E-03
HE+	7.3373E-04	9.2199E-03	1.2095E-02
HE++	7.3862E-13	2.0518E-07	5.6123E-05
H	3.5492E-01	1.0295E-01	2.9985E-02
H+	3.1337E-01	4.3681E-01	4.7282E-01
H2	1.7119E-05	3.3007E-06	2.3741E-07

PI = 5.00E+02 N/SQ-M, US1= 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2332E+03	1.7561E+04	2.9314E+04
T	7.3863E+01	1.2277E+02	1.7504E+02
RHO	1.0227E+01	3.9536E+01	4.3664E+01
H	3.6532E+02	6.4479E+02	8.4954E+02
A	1.4070E+01	2.1408E+01	2.7671E+01
S	2.5428E+00	2.6913E+00	2.8236E+00
Z	2.9418E+00	3.6181E+00	3.8359E+00
GAME	9.1135E-01	1.0314E+00	1.1624E+00
U	3.7854E+01	9.8371E+00	1.1653E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.3715E-01	4.6104E-01	4.9165E-01
HE	1.5940E-02	3.3343E-03	6.2932E-04
HE+	1.0541E-03	1.0684E-02	1.2192E-02
HE++	2.9943E-12	8.0643E-07	2.1351E-04
H	3.0975E-01	7.4599E-02	1.6290E-02
H+	3.3609E-01	4.5055E-01	4.7903E-01
H2	1.2605E-05	1.6184E-06	6.6695E-08

PI = 5.00E+02 N/SQ-M, US1= 5.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5771E+03	1.5938E+04	2.6815E+04
T	7.9517E+01	1.4334E+02	2.2202E+02
RHO	1.6314E+01	3.6734E+01	4.0324E+01
H	4.2132E+02	7.4013E+02	1.0003E+03
A	1.5192E+01	2.6449E+01	3.1122E+01
S	2.6331E+00	2.7945E+00	2.9173E+00
Z	3.1424E+00	3.7670E+00	3.8988E+00
GAME	9.2399E-01	1.0077E+00	1.1221E+00
U	4.0073E+01	1.1400E+01	1.3953E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.7973E-01	4.9241E-01	4.9354E-01
HE	1.3300E-02	1.2003E-03	2.2956E-04
HE+	2.1093E-03	1.1965E-02	9.4936E-03
HE++	4.0422E-11	1.3432E-05	3.1444E-03
H	2.2730E-01	1.3994E-02	5.7974E-03
H+	3.7742E-01	4.7042E-01	4.8279E-01
H2	6.3111E-04	2.7797E-07	6.9493E-09

PI = 5.00E+02 N/SQ-M, US1= 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7572E+03	2.0934E+04	3.7450E+04
T	8.2622E+01	1.5621E+02	2.4514E+02
RHO	1.0228E+01	3.4970E+01	3.9137E+01
H	4.5077E+02	7.8941E+02	1.0850E+03
A	1.5902E+01	2.5902E+01	3.2774E+01
S	2.6654E+00	2.8776E+00	2.9579E+00
Z	3.4433E+00	3.9139E+00	3.9049E+00
GAME	9.3183E-01	1.0261E+00	1.1215E+00
U	4.2006E+01	1.2365E+01	1.5012E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.9377E-01	4.8872E-01	5.0106E-01
HE	1.2471E-02	9.1217E-04	1.2215E-04
HE+	2.9254E-03	1.2244E-02	6.5159E-03
HE++	1.4571E-11	5.3641E-05	6.1553E-03
H	1.8907E-01	4.1810E-02	3.9172E-03
H+	3.9534E-01	4.7636E-01	4.9243E-01
H2	4.2496E-06	1.0330E-07	2.9737E-09

$$P_1 = 500 \text{ N/r.f.}^2$$

P1 = 5.00E+02 N/SEC				US1 = 5.20E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9423E+03	2.1706E+04	4.0315E+04	P	2.522E+02	2.2581E+04	4.7657E+04
T	8.599E+01	1.7065E+02	2.6491E+02	T	0.878E+01	2.1697E+02	3.5814E+02
PHO	1.6236E+01	3.3091E+01	3.7907E+01	PHO	9.86E+0E+01	2.8354E+01	3.3741E+01
M	4.8123E+02	8.3821E+02	1.678E+03	M	5.578E+02	9.570E+02	1.4370E+03
A	1.6449E+01	2.7357E+01	3.1753E+01	A	1.8902E+01	3.0746E+01	4.0829E+01
S	2.7329E+00	2.8698E+00	2.9964E+00	S	2.8705E+00	2.9774E+00	3.1029E+00
Z	3.3625E+00	3.9451E+00	3.9242E+00	Z	3.4173E+00	3.850E+00	3.9439E+00
GAME	9.6132E+01	1.1431E+02	1.1403E+02	GAME	9.8529E+01	1.1189E+02	1.1802E+02
U	4.3443E+01	1.3437E+01	1.6059E+01	U	4.7455E+01	1.5434E+01	1.9577E+01

P1 = 5.00E+02 N/SEC				US1 = 4.80E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9423E+03	2.1706E+04	4.0315E+04	P	2.522E+02	2.2581E+04	4.7657E+04
T	8.599E+01	1.7065E+02	2.6491E+02	T	0.878E+01	2.1697E+02	3.5814E+02
PHO	1.6236E+01	3.3091E+01	3.7907E+01	PHO	9.86E+0E+01	2.8354E+01	3.3741E+01
M	4.8123E+02	8.3821E+02	1.678E+03	M	5.578E+02	9.570E+02	1.4370E+03
A	1.6449E+01	2.7357E+01	3.1753E+01	A	1.8902E+01	3.0746E+01	4.0829E+01
S	2.7329E+00	2.8698E+00	2.9964E+00	S	2.8705E+00	2.9774E+00	3.1029E+00
Z	3.3625E+00	3.9451E+00	3.9242E+00	Z	3.4173E+00	3.850E+00	3.9439E+00
GAME	9.6132E+01	1.1431E+02	1.1403E+02	GAME	9.8529E+01	1.1189E+02	1.1802E+02
U	4.3443E+01	1.3437E+01	1.6059E+01	U	4.7455E+01	1.5434E+01	1.9577E+01

P1 = 5.00E+02 N/SEC				US1 = 4.80E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9423E+03	2.1706E+04	4.0315E+04	P	2.522E+02	2.2581E+04	4.7657E+04
T	8.599E+01	1.7065E+02	2.6491E+02	T	0.878E+01	2.1697E+02	3.5814E+02
PHO	1.6236E+01	3.3091E+01	3.7907E+01	PHO	9.86E+0E+01	2.8354E+01	3.3741E+01
M	4.8123E+02	8.3821E+02	1.678E+03	M	5.578E+02	9.570E+02	1.4370E+03
A	1.6449E+01	2.7357E+01	3.1753E+01	A	1.8902E+01	3.0746E+01	4.0829E+01
S	2.7329E+00	2.8698E+00	2.9964E+00	S	2.8705E+00	2.9774E+00	3.1029E+00
Z	3.3625E+00	3.9451E+00	3.9242E+00	Z	3.4173E+00	3.850E+00	3.9439E+00
GAME	9.6132E+01	1.1431E+02	1.1403E+02	GAME	9.8529E+01	1.1189E+02	1.1802E+02
U	4.3443E+01	1.3437E+01	1.6059E+01	U	4.7455E+01	1.5434E+01	1.9577E+01

P1 = 5.00E+02 N/SC-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.724E+03	2.4417E+04	4.948E+04
T	1.045E+02	2.719E+02	2.8071E+02
PMO	9.450E+00	2.4923E+01	3.2711E+01
M	4.124E+00	1.044E+00	1.6722E+00
A	1.987E+01	3.181E+01	4.2647E+01
S	2.914E+00	2.017E+00	2.1249E+00
Z	2.654E+00	3.074E+00	3.074E+00
GAME	1.0177E+00	1.016E+00	1.1828E+00
U	4.8742E+01	1.7442E+01	2.0734E+01

SPECIES	MOLE FRACTIONS
F-	5.010E-01
HF	1.064E-04
HF+	7.114E-03
M+	5.772E-03
M	7.107E-03
M+	4.829E-03
M2	1.003E-00

P1 = 5.00E+02 N/SC-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1317E+03	2.254E+04	4.773E+04
T	8.9729E+01	1.854E+02	2.5714E+02
PMO	1.0148E+01	1.136E+01	2.652E+01
M	5.1261E+02	8.887E+02	1.2538E+03
A	1.7150E+01	2.447E+01	3.5849E+01
S	2.794E+00	2.907E+00	3.0234E+00
Z	3.439E+00	3.854E+00	3.937E+00
GAME	9.5314E-01	1.1442E+00	1.1614E+00
U	4.479E+01	1.4427E+01	1.714E+01

SPECIES	MOLE FRACTIONS
F-	4.954E-01
ME	2.645E-04
ME+	1.1936E-02
ME++	4.340E-04
M	9.1738E-03
M+	4.8224E-03
M2	1.4742E-04

P1 = 5.00E+02 N/SC-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.324E+03	2.277E+04	4.5280E+04
T	9.380E+01	2.0114E+02	2.2439E+02
PMO	1.0034E+01	2.9817E+01	3.520E+01
M	5.449E+00	6.2587E+02	1.2476E+03
A	1.7914E+01	2.9737E+01	3.8860E+01
S	2.824E+00	2.9423E+00	3.0683E+00
Z	3.5303E+00	3.897E+00	3.940E+00
GAME	9.4831E-01	1.1324E+00	1.1741E+00
U	4.412E+01	1.5440E+01	1.8328E+01

SPECIES	MOLE FRACTIONS
F-	4.974E-01
ME	2.643E-04
ME+	1.1936E-02
ME++	4.340E-04
M	9.1738E-03
M+	4.8224E-03
M2	1.4742E-04

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table III. - Continued

$$P_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+03 N/SQ-M, US1 = 4.00E+03 W/SEC				P1 = 1.00E+03 N/SQ-M, US1 = 7.00E+03 W/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
WILE FRACTIONS				WILE FRACTIONS			
-----				-----			
P	1.112E+01	2.3067E+01	5.6541E+01	P	3.434E+01	1.2039E+02	2.3293E+02
T	2.924E+00	3.5590E+00	4.9570E+00	T	6.4012E+00	9.8713E+00	1.0303E+01
RMC	3.5374E+00	6.5423E+00	1.1414E+01	RMC	5.3511E+00	1.4153E+01	2.1633E+01
H	2.3931E+00	3.6101E+00	5.1956E+00	H	6.5081E+00	1.3474E+01	1.3791E+01
A	1.6757E+00	1.8201E+00	2.1886E+00	A	2.4502E+00	2.4006E+00	3.7706E+00
S	1.0541E+00	1.0601E+00	1.3797E+00	S	1.1533E+00	1.4523E+00	1.1015E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0000E+00	1.0106E+00	1.3359E+00
GAME	9.6407E-01	9.4634E-01	9.6477E-01	GAME	9.4112E-01	3.7430E-01	4.4761E-01
U	2.3170E+00	1.3805E+00	1.2271E+00	U	4.4280E+00	1.6950E+00	1.4409E+00
-----				-----			
SPECIES				SPECIES			
WILE FRACTIONS				WILE FRACTIONS			
-----				-----			
E-	1.9376E-65	9.1517E-47	9.6189E-31	E-	4.2576E-10	9.8737E-14	1.1952E-11
HE	5.0000E-02	5.0000E-02	5.0000E-02	HE	9.9579E-02	4.9475E-02	4.9474E-02
FE+	1.2446E-72	1.1065E-61	2.5141E-52	FE+	1.7105E-44	5.6291E-33	1.7600E-24
HE++	0.	0.	0.	HE++	0.	0.	0.
H	3.0910E-11	4.1274E-00	9.6198E-04	H	8.1204E-04	2.1014E-02	6.3055E-02
H+	6.3462E-20	6.3462E-20	9.3460E-20	H+	4.8111E-10	9.9797E-14	1.1952E-11
H2	9.5000E-01	9.5000E-01	9.4999E-01	H2	9.4151E-01	9.2061E-01	9.2077E-01

C-7

P1 = 1.30E+03 N/50-M, US1 = 5.0JF+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.752E+01	5.4997E+01	1.0211E+02
T	3.8703E+00	5.1616E+00	7.0112E+00
RHO	4.5267E+00	9.0243E+00	1.4554E+01
H	3.9996E+00	5.4334E+00	7.6441E+00
A	1.9451E+00	2.2306E+00	2.5586E+00
S	1.0912E+00	1.0999E+00	1.1175E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.8154E-01	9.6391E-01	9.3304E-01
U	3.0256E+00	1.5153E+00	1.3769E+00

SPECIES	MOLE FRACTIONS
E-	2.6116E-43
HE	5.0000E-02
HE+	3.8225E-60
HE++	C.
H	1.1113E-07
H+	6.3450E-20
H2	9.5000E-01

P1 = 1.00E+03 N/50-M, US1 = 6.00F+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5435E+01	7.9924E+01	1.6058E+02
T	5.0951E+00	7.0497E+00	8.9297E+00
RHO	4.5822E+00	1.1327E+01	1.7302E+01
H	5.3593E+00	7.4966E+00	1.0019E+01
A	2.2174E+00	2.5623E+00	2.9128E+00
S	1.1231E+00	1.1338E+00	1.1458E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.6467E-01	9.3342E-01	9.7115E-01
U	3.7253E+00	1.6383E+00	1.4492E+00

SPECIES	MOLE FRACTIONS
E-	6.0455E-26
HE	4.9530E-02
HE+	1.3078E-51
HE++	C.
H	2.4311E-05
H+	9.6424E-19
H2	9.4019E-01

P1 = 1.03E+03 N/50-M, US1 = 9.0JF+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.6001E+01	1.9365E+02	3.2722E+02
T	7.8261E+00	1.0336E+01	1.1604E+01
RHO	5.8523E+00	1.9042E+01	2.6207E+01
H	8.837E+00	1.3905E+01	1.7581E+01
A	2.6546E+00	3.0111E+00	3.2365E+00
S	1.1871E+00	1.2010E+00	1.2305E+00
Z	1.0044E+00	1.0073E+00	1.0073E+00
GAME	8.9056E-01	9.4566E-01	9.3997E-01
U	5.1512E+00	1.6994E+00	1.4824E+00

SPECIES	MOLE FRACTIONS
E-	1.5670E-15
HE	4.9770E-02
HE+	1.5849E-35
HE++	C.
H	8.8400E-03
H+	1.0344E-15
H2	9.4138E-01

P1 = 1.00E+03 N/50-M, US1 = 9.0JF+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.6051E+01	2.8703E+02	4.5823E+02
T	9.9709E+00	1.1567E+01	1.2729E+01
RHO	6.4742E+00	2.3063E+01	3.1844E+01
H	1.0374E+01	1.7705E+01	2.2006E+01
A	2.6728E+00	3.2388E+00	3.4730E+00
S	1.2124E+00	1.2390E+00	1.2720E+00
Z	1.0017E+00	1.0091E+00	1.0292E+00
GAME	9.3775E-01	9.3775E-01	9.3022E-01
U	5.6104E+00	1.6586E+00	1.5067E+00

SPECIES	MOLE FRACTIONS
E-	2.5349E-13
HE	4.6337E-02
HE+	1.2083E-25
HE++	C.
H	3.4421E-02
H+	2.5329E-10
H2	9.3712E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table III. - Continued

$$P_1 = 1 \text{ KN/m}^2$$

P1 = 1.00E+03 N/50-M, US1 = 1.00E+04 M/SEC				P1 = 1.00E+03 N/50-M, US1 = 1.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	H	P	T	RHO	H
7.4337E+01	4.1591E+02	1.3929E+01	3.8296E+01	1.2936E+02	0.8674E+02	1.5933E+01	4.6182E+01
9.9911E+00	1.2649E+01	2.8634E+01	2.7064E+01	1.1936E+01	1.5933E+01	1.7202E+01	5.6794E+01
7.2041E+00	2.2142E+01	3.7326E+00	1.3153E+00	9.4088E+00	3.8397E+01	4.2846E+00	4.5864E+01
1.3371E+01	3.6711E+00	1.2794E+00	1.1939E+00	2.2076E+01	1.4130E+00	1.4634E+00	1.4669E+00
2.9357E+00	1.2794E+00	1.1939E+00	9.4395E-01	3.3734E+00	1.3478E+00	8.7391E-01	1.7913E+00
1.2424E+00	1.1326E+00	9.4395E-01	1.5531E+00	1.3478E+00	9.5919E-01	1.7913E+00	1.7913E+00
1.0401E+00	9.4395E-01	1.5531E+00	1.5531E+00	8.2940E-01	1.8390E+00	1.8390E+00	1.8390E+00
9.4395E-01	1.5531E+00	1.5531E+00	1.5531E+00	9.6233E+00	1.8390E+00	1.8390E+00	1.8390E+00
6.0884E+00	1.6721E+00	1.5531E+00	1.5531E+00	9.6233E+00	1.8390E+00	1.8390E+00	1.8390E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	5.6451E-12	2.0041E-09	1.1739E-09	E-	9.6921E-10	1.5876E-07	6.3048E-07
HE	4.9373E-02	4.9145E-02	4.9145E-02	HE	4.3497E-02	3.7099E-02	3.4557E-02
HE+	5.737E-03	1.7744E-23	9.6914E-22	HE+	8.1420E-25	4.3941E-19	1.2462E-17
H	7.7E-01	1.4026E-83	2.6920E-75	H	7.6638E-84	3.2212E-69	6.7590E-63
H+	5.6451E-12	2.0041E-09	1.1739E-09	H+	2.6011E-01	5.1636E-01	6.1771E-01
H2	5.7436E-01	7.2136E-01	6.3329E-01	H2	9.6921E-10	1.5876E-07	6.3048E-07
					6.9640E-01	4.4685E-01	3.4773E-01

PI = 1.00E+03 N/50-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5067E+02	1.2378E+03	1.7708E+03
T	1.2522E+01	1.6957E+01	1.8628E+01
RHO	1.0055E+01	5.0878E+01	6.1427E+01
H	2.5477E+01	4.4741E+01	5.3369E+01
A	3.5333E+00	4.6222E+00	5.3669E+00
S	1.3801E+00	1.4623E+00	1.5166E+00
Z	1.1969E+00	1.4349E+00	1.5475E+00
GAME	8.3151E-01	8.7057E-01	8.9062E-01
U	8.7901E+00	1.9349E+00	1.9157E+00

SPECIES	MOLE FRACTIONS
E-	2.6952E-09
HE	4.1773E-02
HE+	1.0214E-23
HE++	3.7870E-84
H	3.2907E-01
H+	2.9852E-09
H2	8.2916E-01
	4.8933E-07
	3.2449E-02
	1.8373E-16
	3.9662E-58
	7.0762E-01
	1.9834E-06
	2.6037E-01

PI = 1.00E+03 N/50-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7386E+22	1.5151E+03	2.1656E+03
T	1.3092E+01	1.8142E+01	2.0222E+01
RHO	1.0633E+01	5.4694E+01	6.4763E+01
H	2.9120E+01	5.1530E+01	6.1561E+01
A	3.6945E+00	4.9512E+00	5.5296E+00
S	1.4183E+00	1.5113E+00	1.5695E+00
Z	1.2451E+00	1.5269E+00	1.6536E+00
GAME	8.3471E-01	8.9492E-01	9.1438E-01
U	1.3553E+01	2.5519E+00	2.6739E+00

SPECIES	MOLE FRACTIONS
E-	8.6124E-09
HE	4.0077E-02
HE+	9.8901E-23
HE++	5.3146E-81
H	3.5949E-01
H+	8.0124E-09
H2	5.6137E-01
	1.4049E-06
	3.2745E-02
	7.5693E-17
	1.8151E-59
	6.5019E-01
	7.9047E-01
	6.3571E-06
	1.7928E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

PI = 1.00E+03 N/50-M, US1 = 1.13E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0752E+01	5.7252E+02	8.5036E+02
T	1.3541E+01	1.3752E+01	1.4933E+01
RHO	7.5621E+00	3.4867E+01	4.4873E+01
H	4.6022E+01	2.7091E+01	3.2728E+01
A	3.0771E+00	3.7237E+00	4.0166E+00
S	1.2745E+00	1.3223E+00	1.3632E+00
Z	1.0704E+00	1.1061E+00	1.2693E+00
GAME	8.3101E-01	3.4332E-01	9.5132E-01
U	7.4694E+00	1.7131E+00	1.6117E+00

SPECIES	MOLE FRACTIONS
E-	5.0111E-11
HE	1.1150E-08
HE+	3.9403E-02
HE++	3.4659E-22
H	1.9421E-77
H+	3.2786E-01
H2	2.1154E-09
	6.3031E-01
	5.1995E-08
	3.9403E-02
	3.4659E-22
	7.3944E-72
	4.2400E-01
	5.1995E-08
	5.7660E-01

PI = 1.00E+03 N/50-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0000E+22	7.6383E+02	1.1127E+03
T	1.1315E+01	1.4764E+01	1.6066E+01
RHO	9.7501E+00	4.0538E+01	5.1157E+01
H	1.9921E+01	3.7533E+01	3.9986E+01
A	2.2221E+00	3.7544E+00	4.3281E+00
S	1.3081E+00	1.3674E+00	1.4123E+00
Z	1.1071E+00	1.2533E+00	1.3534E+00
GAME	8.2994E-01	8.5010E-01	9.6121E-01
U	9.2449E+00	1.7545E+00	1.6601E+00

SPECIES	MOLE FRACTIONS
E-	2.5846E-10
HE	4.6121E-09
HE+	4.9741E-24
HE++	6.0058E-73
H	1.9355E-01
H+	2.5846E-10
H2	7.6125E-01
	4.6216E-09
	5.0454E-02
	2.4346E-20
	9.1265E-73
	4.2303E-01
	4.6289E-09
	5.3753E-01
	1.9051E-07
	3.6939E-02
	7.3501E-19
	5.4623E-67
	5.2242E-01
	1.9091E-07
	4.4064E-01

Table III. - Continued

$$P_1 = 1 \text{ kW m}^2$$

P1 = 1.00E+03 M/SEC, US1 = 1.60E+04 M/SEC				P1 = 1.00E+03 M/SEC, US1 = 1.0E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
----- M/JE FRACTIONS -----				----- M/JE FRACTIONS -----			
E-	1.9492E-09	3.9790E-06	2.3053E-05	E-	2.01E-07	1.5473E-04	4.7934E-03
HE	3.8200E-02	3.0816E-02	2.8399E-02	HE	3.33E-02	2.6619E-02	2.5679E-02
HE+	7.6899E-22	9.1721E-16	7.2332E-14	HE+	1.87E-04	7.1244E-12	3.4594E-04
HE++	2.8526E-78	1.5725E-55	1.6842E-48	HE++	1.1473E-59	3.5035E-41	9.4641E-24
H	4.6942E-01	7.6737E-01	8.6399E-01	H	6.66E-01	9.3474E-01	9.451E-01
H+	1.9482E-08	3.9780E-06	2.3093E-05	H+	2.01E-07	1.5473E-04	4.7934E-03
H2	4.9329E-01	7.5191E-01	1.0757E-01	H2	3.00E-01	3.4307E-02	6.7209E-03
----- M/JE FRACTIONS -----				----- M/JE FRACTIONS -----			
P	1.9863E+02	1.8132E+03	2.6066E+03	P	2.820E+02	2.7427E+03	4.2795E+03
T	1.3651E+01	1.9477E+01	2.2318E+01	T	1.563E+01	2.6144E+01	3.8134E+01
MMO	1.1141E+01	5.7374E+01	6.6335E+01	MMO	1.224E+01	5.5955E+01	5.7613E+01
M	3.3030E+01	5.8771E+01	7.0572E+01	M	4.622E+01	9.2772E+01	1.1525E+02
A	3.8670E+00	5.3451E+00	6.1189E+00	A	4.4511E+00	7.1567E+00	8.9794E+00
S	1.4579E+00	1.5607E+00	1.6239E+00	S	1.5831E+00	1.7644E+00	1.7779E+00
Z	1.3058E+00	1.6226E+00	1.7637E+00	Z	1.503E+00	1.6783E+00	1.9472E+00
GAME	8.3994E-01	9.6403E-01	9.5285E-01	GAME	8.573E-01	1.0433E+00	1.0739E+00
U	1.1305E+01	2.1566E+00	2.2813E+00	U	1.3546E+01	2.5524E+00	3.6426E+00

P1 = 1.00E+03 N/SQ-M, US1 = 2.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2489E+02	2.1253E+03	3.1021E+03
T	1.4215E+01	2.1778E+01	2.5557E+01
RHO	1.1575E+01	5.8601E+01	6.5345E+01
M	3.7180E+01	6.6417E+01	8.0732E+01
A	4.0493E+03	5.8089E+00	6.9684E+00
S	1.4987E+00	1.6098E+02	1.6786E+03
Z	1.3648E+00	1.7182E+00	1.8575E+00
GAME	8.4396E-01	9.3169E-01	1.0229E+00
U	1.2060E+01	2.3794E+00	2.5965E+00

SPECIES	MOLE FRACTIONS
E-	4.4194E-08
HE	3.6583E-02
HE+	5.1482E-21
HE++	4.3913E-76
H	5.3688E-01
H+	4.4194E-08
H2	4.2674E-01

P1 = 1.00E+03 N/SQ-M, US1 = 1.70E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2489E+02	2.1253E+03	3.1021E+03
T	1.4215E+01	2.1778E+01	2.5557E+01
RHO	1.1575E+01	5.8601E+01	6.5345E+01
M	3.7180E+01	6.6417E+01	8.0732E+01
A	4.0493E+03	5.8089E+00	6.9684E+00
S	1.4987E+00	1.6098E+02	1.6786E+03
Z	1.3648E+00	1.7182E+00	1.8575E+00
GAME	8.4396E-01	9.3169E-01	1.0229E+00
U	1.2060E+01	2.3794E+00	2.5965E+00

SPECIES	MOLE FRACTIONS
E-	4.4194E-08
HE	3.6583E-02
HE+	5.1482E-21
HE++	4.3913E-76
H	5.3688E-01
H+	4.4194E-08
H2	4.2674E-01

P1 = 1.00E+03 N/SQ-M, US1 = 2.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2489E+02	2.1253E+03	3.1021E+03
T	1.4215E+01	2.1778E+01	2.5557E+01
RHO	1.1575E+01	5.8601E+01	6.5345E+01
M	3.7180E+01	6.6417E+01	8.0732E+01
A	4.0493E+03	5.8089E+00	6.9684E+00
S	1.4987E+00	1.6098E+02	1.6786E+03
Z	1.3648E+00	1.7182E+00	1.8575E+00
GAME	8.4396E-01	9.3169E-01	1.0229E+00
U	1.2060E+01	2.3794E+00	2.5965E+00

SPECIES	MOLE FRACTIONS
E-	4.4194E-08
HE	3.6583E-02
HE+	5.1482E-21
HE++	4.3913E-76
H	5.3688E-01
H+	4.4194E-08
H2	4.2674E-01

P1 = 1.00E+03 N/SQ-M, US1 = 1.80E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2489E+02	2.1253E+03	3.1021E+03
T	1.4215E+01	2.1778E+01	2.5557E+01
RHO	1.1575E+01	5.8601E+01	6.5345E+01
M	3.7180E+01	6.6417E+01	8.0732E+01
A	4.0493E+03	5.8089E+00	6.9684E+00
S	1.4987E+00	1.6098E+02	1.6786E+03
Z	1.3648E+00	1.7182E+00	1.8575E+00
GAME	8.4396E-01	9.3169E-01	1.0229E+00
U	1.2060E+01	2.3794E+00	2.5965E+00

SPECIES	MOLE FRACTIONS
E-	4.4194E-08
HE	3.6583E-02
HE+	5.1482E-21
HE++	4.3913E-76
H	5.3688E-01
H+	4.4194E-08
H2	4.2674E-01

Table III. - Continued

$$P_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+03 N/50-M, US1 = 2.20E+04 M/SEC					P1 = 1.00E+03 N/50-M, US1 = 2.50E+04 M/SEC				
MOVING SHOCK					MOVING SHOCK				
STANDING SHOCK					STANDING SHOCK				
REFLECTED SHOCK					REFLECTED SHOCK				
SPECIES					SPECIES				
MOLE FRACTIONS					MOLE FRACTIONS				
E-	2.0346E-06	7.7814E-03	4.3305E-02	4.3305E-02	E-	6.3433E-05	4.0341E-02	9.6333E-02	9.6333E-02
HE	2.9081E-02	2.5543E-02	2.4564E-02	2.4564E-02	HE	2.6213E-02	2.4635E-02	2.3128E-02	2.3128E-02
HE+	4.2766E-17	9.5361E-09	9.2307E-06	9.2307E-06	HE+	1.9549E-13	5.3136E-06	6.4175E-05	6.4175E-05
HE++	9.1943E-61	2.7114E-26	3.1200E-19	3.1200E-19	HE++	2.1274E-47	4.4678E-23	4.9964E-16	4.9964E-16
H	8.3676E-01	9.5494E-01	9.9719E-01	9.9719E-01	H	9.5127E-01	8.9337E-01	7.4359E-01	7.4359E-01
H+	2.0346E-06	7.7814E-03	4.3296E-02	4.3296E-02	H+	6.3433E-05	4.0341E-02	9.6266E-02	9.6266E-02
H2	1.3616E-01	5.9554E-03	1.6376E-03	1.6376E-03	H2	2.2348E-02	1.3161E-03	8.1944E-04	8.1944E-04
P	3.7851E+02	3.4577E+03	5.9778E+03	5.9778E+03	P	4.8394E+02	3.9323E+03	6.8615E+03	6.8615E+03
T	1.7667E+01	4.0070E+01	5.3615E+01	5.3615E+01	T	2.2526E+01	5.1283E+01	6.3323E+01	6.3323E+01
RHO	1.2460E+01	4.4636E+01	5.4794E+01	5.4794E+01	RHO	1.1263E+01	3.8248E+01	5.0506E+01	5.0506E+01
M	6.1656E+01	1.0929E+02	1.4370E+02	1.4370E+02	M	7.9212E+01	1.3966E+02	1.8220E+02	1.8220E+02
A	5.2170E+00	9.0578E+00	1.0216E+01	1.0216E+01	A	6.7077E+00	9.9606E+00	1.1252E+01	1.1252E+01
S	1.7139E+03	1.9143E+03	1.9921E+03	1.9921E+03	S	1.8389E+03	1.9077E+03	1.9762E+03	1.9762E+03
Z	1.7193E+00	1.5575E+00	2.0348E+00	2.0348E+00	Z	1.9074E+00	2.0292E+00	2.1559E+00	2.1559E+00
GAME	9.9594E-01	1.0470E+00	9.5669E-01	9.5669E-01	GAME	1.0471E+00	9.5339E-01	9.3189E-01	9.3189E-01
U	1.5713E+01	4.3838E+00	4.6246E+00	4.6246E+00	U	1.7695E+01	5.2034E+00	5.0733E+00	5.0733E+00

PI = 1.00E+03 N/SQ-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1307E+02	3.7179E+03	6.4292E+03
T	1.9764E+01	4.4319E+01	5.7237E+01
RHO	1.2287E+01	4.2440E+01	5.4189E+01
H	6.7252E+01	1.1996E+02	1.5663E+02
A	5.3703E+00	9.3781E+00	1.0584E+01
S	1.7571E+00	1.9455E+00	1.9131E+00
Z	1.7926E+00	1.9767E+00	2.3729E+00
GAME	9.2247E+01	1.0039E+00	9.4427E+01
U	1.4408E+01	4.7479E+00	4.8163E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	5.1J55E-06
HE	2.7922E-02
HE+	3.9972E-16
HE++	5.5857E-54
H	8.8391E-01
H+	5.1055E-06
H2	8.9173E-02

PI = 1.00E+03 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4944E+02	3.8946E+03	6.7477E+03
T	2.0266E+01	4.8375E+01	6.3356E+01
RHO	1.1911E+01	4.2489E+01	5.2901E+01
H	7.3144E+01	1.2983E+02	1.6951E+02
A	6.0430E+00	9.8763E+00	1.0931E+01
S	1.7992E+00	1.8763E+00	1.9443E+00
Z	1.9578E+00	2.3038E+00	2.1133E+00
GAME	9.6997E+01	9.7344E+01	9.3676E+01
U	1.7372E+01	5.0191E+00	4.9592E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	1.5537E-05
HE	2.4914E-02
HE+	6.1532E-15
HE++	1.8760E-53
H	9.2340E-01
H+	1.5557E-05
H2	4.9659E-02

PI = 1.00E+03 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1523E+02	3.9771E+03	6.7773E+03
T	2.5775E+01	5.4307E+01	6.5221E+01
RHO	1.0416E+01	3.5732E+01	4.7259E+01
H	8.5494E+01	1.4924E+02	1.9453E+02
A	7.4565E+00	1.3229E+01	1.1539E+01
S	1.9751E+00	1.9397E+00	2.3099E+00
Z	1.9340E+00	2.3639E+00	2.1584E+00
GAME	1.1154E+00	9.4311E+01	9.2949E+01
U	1.8252E+01	5.3179E+00	5.1567E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	3.1536E-04
HE	2.3853E-02
HE+	1.3520E-11
HE++	4.0654E-41
H	5.6454E-01
H+	3.1536E-04
H2	8.5749E-03

PI = 1.00E+03 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5505E+02	3.9645E+03	6.6692E+03
T	2.9615E+01	5.6432E+01	6.7222E+01
RHO	9.4325E+00	3.5328E+01	4.2233E+01
H	9.1961E+01	1.5972E+02	2.3492E+02
A	8.0145E+00	1.3464E+01	1.1919E+01
S	1.5372E+00	1.9711E+00	2.3412E+00
Z	1.9454E+00	2.3954E+00	2.2431E+00
GAME	1.1143E+00	5.3127E+01	5.2455E+01
U	1.8791E+01	5.3963E+00	5.2292E+00

SPECIES ----- MOLE FRACTIONS -----

SPECIES	MOLE FRACTIONS
E-	1.3549E-03
HE	2.5647E-02
HE+	3.3441E-10
HE++	1.6724E-35
H	9.6936E-01
H+	1.3549E-03
H2	3.5391E-03

Table III. - Continued

$$P_1 = 1 \text{ kN/m}^2$$

P1 = 1.00E+03 N/SQ-M, US1 = 2.00E+04 M/SEC				P1 = 1.00E+03 N/SQ-M, US1 = 3.00E+04 M/SEC			
SPECIES	----- MULE FRACTIONS -----			SPECIES	----- MULE FRACTIONS -----		
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK		MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	5.5261E+02	4.0169E+03	6.6766E+03	P	7.6646E+02	4.9333E+03	7.9557E+03
T	3.3423E+01	5.8745E+01	6.9256E+01	T	4.4867E+01	6.7933E+01	7.8475E+01
RHO	9.6394E+00	3.2344E+01	4.2133E+01	RHO	8.4354E+00	3.1450E+01	4.0534E+01
H	5.8688E+01	1.7372E+02	2.1995E+02	H	1.2835E+02	2.2150E+02	2.8150E+02
A	4.3525E+00	1.0766E+01	1.2113E+01	A	9.2021E+00	1.0211E+01	1.3514E+01
S	1.9303E+00	2.0011E+00	2.3724E+00	S	2.0342E+00	2.1100E+00	2.1993E+00
Z	1.9547E+00	2.1326E+00	2.2497E+00	Z	2.0251E+00	2.1793E+00	2.5029E+00
GAME	1.2677E+00	9.2553E-01	6.2527E-01	GAME	9.3198E-01	9.1948E-01	9.2033E-01
U	1.9344E+01	5.4706E+00	5.3393E+00	U	2.1915E+01	5.9704E+00	5.7621E+00
----- MULE FRACTIONS -----				----- MULE FRACTIONS -----			
E-	4.1711E-03	9.6294E-02	1.4881E-01	E-	3.7614E-02	1.5555E-01	2.2114E-01
HE	2.5596E-02	2.3413E-02	2.1640E-02	HE	2.4647E-02	2.1477E-02	1.9299E-02
HE+	6.1448E-09	3.4620E-08	1.7653E-04	HE+	1.4944E-06	1.9552E-04	6.7743E-04
H	3.7972E-31	3.7834E-17	2.0225E-14	H	1.5307E-24	1.6739E-14	2.4505E-12
H+	9.6429E-01	9.0330E-01	6.8029E-01	H+	8.9963E-01	6.6708E-01	5.3819E-01
H2	4.1711E-03	8.6253E-02	1.4962E-01	H2	3.7612E-02	1.5537E-01	2.2346E-01
	1.7974E-03	6.4371E-04	4.6261E-04		4.5121E-04	3.1404E-04	2.7724E-04

PI = 1.00E+03 M/50-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.325E+02	4.153E+03	6.8321E+03
T	3.687E+01	6.1038E+01	7.1402E+01
RHO	8.723E+00	3.131E+01	4.0507E+01
H	1.056E+02	1.3242E+02	2.3392E+02
A	8.581E+00	1.1058E+01	1.2431E+01
S	1.922E+00	2.029E+00	2.1124E+00
Z	1.956E+00	2.1728E+00	2.3391E+00
GAME	4.0157E+00	9.2205E+01	9.2529E+01
U	1.9941E+01	5.4502E+00	5.4619E+00

SPECIES

----- MLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	9.4349E-03	1.6307E-01	1.6673E-01
HE	2.5427E-02	2.2956E-02	2.1103E-02
HE+	4.6122E-09	5.5401E-03	2.7244E-04
H	5.3623E-23	2.0441E-16	9.4619E-14
H+	9.5462E-01	7.7336E-01	6.4507E-01
H2	9.4349E-03	1.6307E-01	1.6673E-01

PI = 1.00E+03 M/50-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.747E+02	4.153E+03	7.1402E+03
T	3.687E+01	6.1038E+01	7.1402E+01
RHO	8.723E+00	3.131E+01	4.0507E+01
H	1.056E+02	1.3242E+02	2.3392E+02
A	8.581E+00	1.1058E+01	1.2431E+01
S	1.922E+00	2.029E+00	2.1124E+00
Z	1.956E+00	2.1728E+00	2.3391E+00
GAME	4.0157E+00	9.2205E+01	9.2529E+01
U	1.9941E+01	5.4502E+00	5.4619E+00

SPECIES

----- MLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.714E-02	1.214E-01	1.4473E-01
HE	2.521E-02	2.247E-02	2.1103E-02
HE+	2.046E-07	3.027E-05	3.7273E-04
H	1.145E-25	5.940E-16	2.0506E-13
H+	9.370E+01	7.370E+01	6.4507E-01
H2	1.714E-02	1.214E-01	1.4473E-01

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

PI = 1.00E+03 M/50-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.661E+02	5.657E+03	9.0533E+03
T	4.894E+01	7.254E+01	9.3594E+01
RHO	8.512E+00	3.273E+01	4.1284E+01
H	1.448E+02	2.5357E+02	3.1735E+02
A	9.634E+00	1.2096E+01	1.4321E+01
S	2.070E+00	2.1523E+00	2.2449E+00
Z	2.070E+00	2.1523E+00	2.2449E+00
GAME	5.121E+00	2.409E+00	2.6233E+00
U	2.335E+01	7.2231E-01	9.3527E-01

SPECIES

----- MLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.230E-02	1.9072E-01	2.5694E-01
HE	2.404E-02	7.540E-02	1.7994E-02
HE+	5.654E-06	3.272E-02	1.165E-03
H	1.92E-21	1.345E-13	1.9373E-11
H+	6.230E-02	1.9072E-01	2.5694E-01
H2	3.113E-04	7.5112E-04	1.6419E-04

PI = 1.00E+03 M/50-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.731E+02	6.4915E+03	1.3337E+04
T	5.249E+01	7.717E+01	9.8954E+01
RHO	9.659E+00	3.367E+01	4.2266E+01
H	1.622E+02	2.9162E+02	3.5608E+02
A	1.027E+01	1.3411E+01	1.5179E+01
S	2.123E+00	2.2136E+00	2.3311E+00
Z	2.123E+00	2.2136E+00	2.3311E+00
GAME	9.633E+01	9.4202E-01	9.4202E-01
U	2.472E+01	6.4011E+00	6.3706E+00

SPECIES

----- MLE FRACTIONS -----

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	8.935E-02	2.2403E-01	2.9088E-01
HE	2.334E-02	1.9241E-02	1.6293E-02
HE+	1.514E-05	6.3612E-04	1.8927E-03
H	7.011E-19	1.6554E-12	1.2953E-13
H+	9.772E-01	5.3060E-01	4.0184E-01
H2	8.935E-02	2.2403E-01	2.9088E-01

$p_1 = 1 \text{ kN/m}^2$

P1 = 1.00E+03 M/SQ-M, JS1= 4.40E+34 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.406E+03	1.358E+04	1.087E+04
T	6.442E+01	9.056E+01	1.144E+02
RHO	9.328E+00	3.679E+01	4.493E+01
M	2.423E+02	4.245E+02	5.390E+02
A	1.190E+01	1.655E+01	1.925E+01
Z	2.302E+00	2.419E+00	2.526E+00
U	9.007E-01	9.529E-01	9.971E-01
	3.050E+01	7.731E+00	7.990E+00
SPECIES			
	MOLE FRACTIONS		
E-	2.0121E-01	3.4538E-01	4.6559E-01
H+	2.6299E-02	1.3228E-02	7.8193E-03
HE+	1.8572E-04	3.5591E-03	7.4223E-03
HE++	7.0466E-15	1.5879E-09	8.1580E-08
H	5.7719E-01	2.9596E-01	1.8097E-01
H+	3.2102E-01	3.4182E-01	3.9817E-01
H2	8.9344E-05	5.2822E-05	2.1259E-05

P1 = 1.00E+03 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6359E+03	1.1734E+04	1.9812E+04
T	6.7177E+01	1.0191E+02	1.2274E+02
RHO	9.4638E+03	3.7170E+01	4.4959E+01
M	2.6449E+02	4.6460E+02	5.9226E+02
A	1.2382E+01	1.7431E+01	2.0530E+01
S	2.3473E+00	2.4657E+00	2.5817E+00
Z	2.5260E+00	3.6975E+00	3.4092E+00
GAME	9.0344E-01	9.6250E-01	1.0375E+00
U	3.1945E+01	8.1290E+00	4.5178E+00

P1 = 1.00E+03 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6335E+03	1.3335E+04	1.3335E+04
T	5.9747E+01	1.3044E+02	1.3044E+02
RHO	6.0277E+03	4.4333E+01	4.4333E+01
M	2.6449E+02	4.4333E+02	4.4333E+02
A	1.2382E+01	1.7431E+01	1.7431E+01
S	2.3473E+00	2.4657E+00	2.4657E+00
Z	2.5260E+00	3.6975E+00	3.6975E+00
GAME	9.0344E-01	9.6250E-01	9.6250E-01
U	3.1945E+01	8.1290E+00	8.1290E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.2911E-01	3.7050E-01	4.2833E-01
HE	1.9503E-02	1.1309E-02	5.6910E-03
HE+	2.9111E-04	4.9337E-03	8.9749E-03
HE++	3.7828E-14	8.5130E-09	3.4522E-07
H	5.2421E-01	2.4766E-01	1.3924E-01
M+	2.2782E-01	3.6567E-01	4.1905E-01
M2	6.9624E-05	3.6324E-05	1.1919E-05

SPECIES ----- MOLE FRACTIONS -----

E-	1.6551E-01	2.9499E-01	3.5299E-01
HE	2.0189E-02	1.3705E-02	1.2373E-02
HE+	6.3746E-03	1.6549E-03	4.2256E-03
HE++	1.3749E-11	6.9414E-11	3.6146E-09
H	6.4652E-01	4.0336E-01	2.8179E-01
M+	1.4554E-01	2.9731E-01	3.4867E-01
M2	1.4144E-04	1.6640E-04	5.4676E-05

P1 = 1.00E+03 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7511E+03	1.2615E+04	2.0891E+04
T	6.9910E+01	1.0761E+02	1.3268E+02
RHO	9.5795E+03	3.7339E+01	4.4557E+01
M	2.6845E+02	5.3624E+02	6.4535E+02
A	1.2475E+01	1.8355E+01	2.2004E+01
S	2.3927E+00	2.5194E+00	2.6376E+00
Z	2.6145E+00	3.2145E+00	3.5321E+00
GAME	9.0344E-01	9.7434E-01	1.0335E+00
U	3.3380E+01	9.5623E+00	9.1497E+00

P1 = 1.00E+03 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3396E+03	6.3719E+03	1.5651E+04
T	5.1521E+01	6.1405E+01	1.3717E+02
RHO	9.1744E+03	1.5204E+01	4.4525E+01
M	2.4591E+02	3.8623E+02	4.8944E+02
A	1.1432E+01	1.5723E+01	1.9103E+01
S	2.2571E+00	2.3677E+00	2.4695E+00
Z	2.3504E+00	2.9537E+00	3.1473E+00
GAME	9.0344E-01	9.4457E-01	9.7167E-01
U	2.9304E+01	7.3616E+00	7.5194E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.5445E-01	3.9339E-01	4.4732E-01
HE	1.9254E-02	9.3038E-02	3.8774E-03
HE+	4.4161E-04	5.2461E-03	1.3277E-02
HE++	1.7833E-13	2.4593E-08	1.4947E-06
H	4.7295E-01	2.0399E-01	1.0275E-01
M+	2.5371E-01	3.8714E-01	4.3764E-01
M2	5.4466E-05	2.7695E-05	5.9442E-06

SPECIES ----- MOLE FRACTIONS -----

E-	1.7331E-01	3.1911E-01	3.8043E-01
HE	2.0189E-02	1.3705E-02	1.2373E-02
HE+	1.3749E-11	6.9414E-11	3.6146E-09
HE++	1.0255E-15	3.5183E-10	1.4438E-08
H	6.4652E-01	4.0336E-01	2.8179E-01
M+	1.4554E-01	2.9731E-01	3.4867E-01
M2	1.4144E-04	1.6640E-04	5.4676E-05

Table III. - Continued

$$P_1 = 1 \text{ kW/m}^2$$

P1 = 1.00E+03 N/50-M, US1 = 5.00E+04 M/SEC				P1 = 1.00E+03 N/50-M, US1 = 5.00E+04 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	REFLECTED SHOCK			STANDING SHOCK	REFLECTED SHOCK	
P	1.9020E+03	1.4130E+04	2.3073E+04	P	2.3890E+03	1.7735E+04	3.3461E+04
T	7.2672E+01	1.1384E+02	1.4433E+02	T	8.1319E+01	1.3741E+02	2.0342E+02
RHO	9.6745E+00	3.7223E+01	4.3754E+01	RHO	9.8201E+01	9.9643E+01	3.0502E+01
M	3.1297E+02	5.4935E+02	7.1039E+02	M	3.6246E+02	2.7777E+01	6.2733E+02
A	1.3301E+01	1.9336E+01	2.3704E+01	A	1.5060E+01	2.7132E+03	2.5555E+01
S	2.4304E+00	2.5639E+00	2.6926E+00	S	2.5761E+00	2.7132E+03	2.8456E+00
Z	2.7933E+03	3.3294E+00	3.6409E+00	Z	2.9905E+00	3.6780E+03	3.5.64E+03
GAME	9.1079E-01	9.8850E-01	1.0655E+00	GAME	5.2630E-01	1.3543E+01	1.1391E+03
U	3.4816E+01	9.0461E+00	9.8403E+00	U	3.9026E+01	1.3842E+01	1.2444E+01
SPECIES	MOVING SHOCK		REFLECTED SHOCK		MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	REFLECTED SHOCK			STANDING SHOCK	REFLECTED SHOCK	
E-	2.7923E-01	4.1433E-01	4.6442E-01	E-	3.4791E-01	4.6259E-01	4.9171E-01
ME	1.7031E-02	7.3172E-03	2.5250E-03	ME	1.4479E-03	2.7514E-03	7.3749E-04
ME+	6.5129E-04	7.7003E-03	1.1201E-02	ME+	1.4914E-03	1.1023E-02	1.1654E-02
M	7.5928E-13	8.8494E-03	6.7017E-06	M	3.7572E-11	3.6649E-03	6.3181E-04
M+	4.2366E-01	1.6401E-01	6.8631E-02	M+	2.4929E-01	7.2259E-02	1.6566E-02
M-	2.7850E-01	4.1663E-01	4.5321E-01	M-	3.4424E-01	4.5117E-01	4.7875E-01
M2	4.2173E-05	1.7734E-05	2.6603E-06	M2	1.7945E-05	2.4164E-06	1.1462E-07

P1 = 1.00E+03 N/SQ-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0589E+03	1.5032E+04	2.3407E+04
T	7.5471E+01	2.0728E+02	1.4003E+02
R	9.748E+00	3.6437E+01	4.256E+01
M	3.3848E+02	5.3909E+02	7.7625E+02
A	1.3904E+01	2.2432E+01	2.5625E+01
S	2.4842E+03	2.6189E+03	2.7463E+00
Z	2.7906E+00	3.4304E+00	3.7296E+00
G	9.153E-01	1.0065E+00	1.1002E+00
U	3.6243E+01	9.5778E+00	1.3761E+01

531 7345

MOLE FRACTIONS

E-	3.0245-01	4.3295-01	4.7715-01
ME	1.4927E-02	5.4063-03	1.6170E-03
E+	9.3953E-03	9.3459E-03	1.1751E-02
M	2.9951E-12	9.6493E-07	3.1695E-05
M	3.7652E-01	1.2871E-01	4.0871E-02
M	3.0232E-01	4.2385E-01	4.6534E-01
M2	3.2222E-05	9.7011E-04	9.8650E-07

JJS/W 9C0JF6-5 = 15M 6-75/W 670300T = 14

	NUMBER OF	STANDARD SCORE	PERCENTAGE SCORE
P	2,567,000	1.6991000	76.3304000
T	4,443,000	1.6771000	76.7360000
M	9,916,000	1.6459000	77.3600000
H	4,295,000	1.7467000	81.1000000
A	1,553,000	1.8339000	84.4300000
S	2,622,000	1.7554000	80.4510000
Z	3,697,000	1.7134000	79.9000000
E	5,325,000	1.6529000	77.1300000
U	4,362,000	1.6146000	76.4900000

51133ds

504 13th St

10-12.95509	12-12.94209	11-12.93909	-3
95-13.00001	11-12.93701	10-12.93401	34
85-13.04501	10-12.93201	95-13.04001	34
75-13.09001	10-12.92701	65-13.08501	34
65-13.13501	10-12.92201	55-13.13001	34
55-13.18001	10-12.91701	45-13.17501	34
45-13.22501	10-12.91201	35-13.22001	34
35-13.27001	10-12.90701	25-13.26501	34
25-13.31501	10-12.90201	15-13.31001	34
15-13.36001	10-12.89701	5-13.35501	34
5-13.40501	10-12.89201	0-13.40001	34

PI = 1.0CE+03 N/SQ-², US1 = 5.43F+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.223E+03	1.6699E+04	2.7913E+04
T	7.8813E+01	1.2083E+02	1.7382E+02
RMD	9.8362E+00	3.6247E+01	4.1142E+01
M	3.6496E+02	6.3999E+02	9.3741E+02
W	1.6433E+01	2.1632E+01	2.7672E+01
S	2.5294E+00	2.6687E+00	2.7974E+00
S	2.8092E+00	3.5942E+00	3.7942E+00
Z	9.2322E+03	1.0216E+03	1.1286E+03
G	2.7633E+01	1.3132E+01	1.1749E+01

SPECIES

POLE FRACTIONS

[illegible]

$P_1 = 1.32 \times 10^5 \text{ Pa}$, $P_2 = 1.01 \times 10^5 \text{ Pa}$

[illegible]

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10-39860-9	10-39861-9	10-39862-9	10-39863-9	10-39864-9	10-39865-9	10-39866-9	10-39867-9	10-39868-9	10-39869-9	10-39870-9	10-39871-9	10-39872-9	10-39873-9	10-39874-9	10-39875-9	10-39876-9	10-39877-9	10-39878-9	10-39879-9	10-39880-9	10-39881-9	10-39882-9	10-39883-9	10-39884-9	10-39885-9	10-39886-9	10-39887-9	10-39888-9	10-39889-9	10-39890-9	10-39891-9	10-39892-9	10-39893-9	10-39894-9	10-39895-9	10-39896-9	10-39897-9	10-39898-9	10-39899-9	10-39900-9	10-39901-9	10-39902-9	10-39903-9	10-39904-9	10-39905-9	10-39906-9	10-39907-9	10-39908-9	10-39909-9	10-39910-9	10-39911-9	10-39912-9	10-39913-9	10-39914-9	10-39915-9	10-39916-9	10-39917-9	10-39918-9	10-39919-9	10-39920-9	10-39921-9	10-39922-9	10-39923-9	10-39924-9	10-39925-9	10-39926-9	10-39927-9	10-39928-9	10-39929-9	10-39930-9	10-39931-9	10-39932-9	10-39933-9	10-39934-9	10-39935-9	10-39936-9	10-39937-9	10-39938-9	10-39939-9	10-39940-9	10-39941-9	10-39942-9	10-39943-9	10-39944-9	10-39945-9	10-39946-9	10-39947-9	10-39948-9	10-39949-9	10-39950-9	10-39951-9	10-39952-9	10-39953-9	10-39954-9	10-39955-9	10-39956-9	10-39957-9	10-39958-9	10-39959-9	10-39960-9	10-39961-9	10-39962-9	10-39963-9	10-39964-9	10-39965-9	10-39966-9	10-39967-9	10-39968-9	10-39969-9	10-39970-9	10-39971-9	10-39972-9	10-39973-9	10-39974-9	10-39975-9	10-39976-9	10-39977-9	10-39978-9	10-39979-9	10-39980-9	10-39981-9	10-39982-9	10-39983-9	10-39984-9	10-39985-9	10-39986-9	10-39987-9	10-39988-9	10-39989-9	10-39990-9	10-39991-9	10-39992-9	10-39993-9	10-39994-9	10-39995-9	10-39996-9	10-39997-9	10-39998-9	10-39999-9	10-40000-9	10-40001-9	10-40002-9	10-40003-9	10-40004-9	10-40005-9	10-40006-9	10-40007-9	10-40008-9	10-40009-9	10-40010-9	10-40011-9	10-40012-9	10-40013-9	10-40014-9	10-40015-9	10-40016-9	10-40017-9	10-40018-9	10-40019-9	10-40020-9	10-40021-9	10-40022-9	10-40023-9	10-40024-9	10-40025-9	10-40026-9	10-40027-9	10-40028-9	10-40029-9	10-40030-9	10-40031-9	10-40032-9	10-40033-9	10-40034-9	10-40035-9	10-40036-9	10-40037-9	10-40038-9	10-40039-9	10-40040-9	10-40041-9	10-40042-9	10-40043-9	10-40044-9	10-40045-9	10-40046-9	10-40047-9	10-40048-9	10-40049-9	10-40050-9	10-40051-9	10-40052-9	10-40053-9	10-40054-9	10-40055-9	10-40056-9	10-40057-9	10-40058-9	10-40059-9	10-40060-9	10-40061-9	10-40062-9	10-40063-9	10-40064-9	10-40065-9	10-40066-9	10-40067-9	10-40068-9	10-40069-9	10-40070-9	10-40071-9	10-40072-9	10-40073-9	10-40074-9	10-40075-9	10-40076-9	10-40077-9	10-40078-9	10-40079-9	10-40080-9	10-40081-9	10-40082-9	10-40083-9	10-40084-9	10-40085-9	10-40086-9	10-40087-9	10-40088-9	10-40089-9	10-40090-9	10-40091-9	10-40092-9	10-40093-9	10-40094-9	10-40095-9	10-40096-9	10-40097-9	10-40098-9	10-40099-9	10-40100-9	10-40101-9	10-40102-9	10-40103-9	10-40104-9	10-40105-9	10-40106-9	10-40107-9	10-40108-9	10-40109-9	10-40110-9	10-40111-9	10-40112-9	10-40113-9	10-40114-9	10
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Table III. - Continued.

$$p_1 = 1 \text{ kW/m}^2$$

P1 = 1.00E+03 N/SQ-M, US1 = 6.20E+04 M/SEC				P1 = 1.00E+03 N/SQ-M, US1 = 6.80E+04 M/SEC			
SPECIES	MOVING SHOCK		REFLECTED SHOCK	SPECIES	MOVING SHOCK		REFLECTED SHOCK
	STANDING SHOCK	STANDING SHOCK			STANDING SHOCK	STANDING SHOCK	
E-	4.0571E-01	4.9753E-01	5.0101E-01	E-	4.5124E-01	4.5674E-01	5.0484E-01
ME	1.0800E-02	9.2363E-04	1.4859E-04	ME	5.5849E-03	3.5227E-04	1.2827E-05
HE+	4.432E-03	1.2090E-02	5.4445E-03	HE+	8.487E-03	1.3436E-02	1.3503E-03
HE++	1.5011E-09	1.2628E-04	7.2014E-03	HE++	5.2811E-09	2.1158E-03	1.1625E-02
H	1.7778E-01	2.4143E-02	5.0315E-03	H	9.1929E-02	9.2964E-03	1.9264E-03
M+	4.0127E-01	4.7519E-01	4.9116E-01	M+	4.4276E-01	4.8207E-01	4.8353E-01
M2	6.0686E-06	2.1621E-07	8.7359E-09	M2	1.4372E-06	1.9119E-09	1.1011E-09
P	2.9274E+03	2.0594E+04	3.8163E+04	P	3.5305E+03	2.2819E+04	4.5487E+04
T	9.1295E+01	1.7293E+02	2.7123E+02	T	1.6422E+02	2.1793E+02	3.5623E+02
RHO	9.7736E+00	3.1315E+01	3.8003E+01	RHO	9.4703E+01	2.7029E+01	3.2424E+01
M	4.8074E+02	9.3351E+02	1.1625E+03	M	5.7775E+02	9.4725E+02	1.4297E+03
A	1.6857E+01	2.7260E+01	3.4642E+01	A	1.155E+01	3.0474E+01	4.7617E+01
S	2.7134E+00	2.8413E+00	2.9720E+00	S	2.8669E+00	2.9115E+00	3.0798E+00
Z	3.2812E+00	3.9351E+00	3.9079E+00	Z	3.5535E+00	3.8717E+00	3.9381E+00
GAME	9.4867E-01	1.1300E+00	1.1322E+00	GAME	9.5043E-01	1.1203E+00	1.1763E+00
U	4.3223E+01	1.3483E+01	1.8093E+01	U	4.7234E+01	1.6536E+01	1.9502E+01

SPECIES		MOLE FRACTIONS	
E-	4.5124E-01	4.5674E-01	5.0484E-01
ME	5.5849E-03	3.5227E-04	1.2827E-05
HE+	8.487E-03	1.3436E-02	1.3503E-03
HE++	5.2811E-09	2.1158E-03	1.1625E-02
H	9.1929E-02	9.2964E-03	1.9264E-03
M+	4.4276E-01	4.8207E-01	4.8353E-01
M2	1.4372E-06	1.9119E-09	1.1011E-09

P1 = 1.00E+03 N/50-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7132E+03	2.3414E+04	4.7733E+04
T	1.2975E+02	2.3322E+02	3.9705E+02
RHD	5.3383E+00	2.5808E+01	3.1223E+01
H	6.1193E+02	1.9433E+03	1.5232E+03
A	2.0091E+01	5.1993E+01	4.2439E+01
S	2.8853E+00	2.9849E+00	3.1117E+00
Z	3.6319E+00	3.9930E+00	3.9416E+00
GAME	1.0120E+00	1.1215E+00	1.1805E+00
U	4.8523E+01	1.7499E+01	2.0635E+01

SPECIES	MOLE FRACTIONS
E-	4.6237E-01
HE	4.9972E-01
HE+	2.4160E-04
HE++	8.7779E-03
H	1.7538E-07
H+	6.5866E-02
H2	4.5325E-01
	7.6441E-07

P1 = 1.00E+03 N/50-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1169E+03	2.1423E+04	4.0711E+04
T	9.5129E+01	1.9713E+02	2.9746E+02
RHD	9.7073E+00	2.5456E+01	3.4890E+01
H	5.1216E+02	4.3499E+02	1.2495E+03
A	1.7550E+01	2.8606E+01	3.6647E+01
S	2.7582E+00	2.9793E+00	3.3393E+00
Z	3.3752E+00	3.8351E+00	4.9227E+00
GAME	9.5932E-01	1.1434E+00	1.1537E+00
U	4.4582E+01	1.4530E+01	1.7193E+01

SPECIES	MOLE FRACTIONS
E-	4.2246E-01
HE	6.7274E-04
HE+	6.4732E-05
HE++	9.4555E-03
H	3.6952E-03
H+	4.8076E-01
H2	4.2639E-09

P1 = 1.30E+03 N/50-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3107E+03	2.2161E+04	4.3151E+04
T	9.5393E+01	2.0248E+02	3.2523E+02
RHD	9.6399E+00	2.9374E+01	3.3743E+01
H	5.4445E+02	9.3322E+02	1.3367E+03
A	1.8367E+01	2.9923E+01	3.9621E+01
S	2.8027E+00	2.9166E+00	3.0441E+00
Z	3.4663E+00	3.9574E+00	3.9321E+00
GAME	9.7281E-01	1.1399E+00	1.1664E+00
U	4.5921E+01	1.5546E+01	1.9291E+01

SPECIES	MOLE FRACTIONS
E-	4.3744E-01
HE	7.3648E-03
HE+	7.0599E-03
HE++	1.5897E-03
H	1.1775E-01
H+	4.3039E-01
H2	2.4391E-06

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table III. - Continued

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/SQ-M., US1 = 4.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1124E+01	2.3087E+01	5.6542E+01
T	2.8489E+00	3.5002E+00	4.9521E+00
RND	3.9378E+00	6.5923E+00	1.1419E+01
H	2.8891E+00	7.6121E+00	5.1956E+00
A	1.6757E+00	1.8451E+00	2.1881E+00
S	1.0655E+00	1.6625E+00	1.0915E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAPF	9.9437E-01	7.9639E-01	9.6684E-01
U	2.317E+00	1.3854E+00	1.2214E+00

P1 = 2.00E+03 N/SQ-M., US1 = 7.00E+03 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4941E+01	1.2601E+02	2.3386E+02
T	6.4062E+00	8.5569E+00	1.3639E+01
RND	5.3963E+00	1.3953E+01	2.1294E+01
H	6.9677E+00	1.0457E+01	1.3846E+01
A	2.4767E+00	2.6257E+00	3.3617E+00
S	1.1588E+00	1.1707E+00	1.1977E+00
Z	1.0003E+00	1.0093E+00	1.2310E+00
GAPF	9.4374E-01	8.8411E-01	9.5667E-01
U	4.4271E+00	1.7392E+00	1.5055E+00

SPECIES			
	MOLE FRACTIONS	MOLE FRACTIONS	MOLE FRACTIONS
E-	2.5813E-19	7.4006E-14	1.4821E-11
HE	4.9914E-02	4.9914E-02	4.8498E-02
HE+	1.8399E-44	1.8399E-37	9.1545E-28
HE++	0.	0.	0.
H	6.246E-04	1.6539E-02	6.0993E-02
H+	3.2137E-19	7.5606E-14	1.4821E-11
H2	9.4919E-01	9.3300E-01	9.9141E-01

P1 = 2.00E+03 N/SQ-M, US1 = 5.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7520E+01	4.4596E+01	1.0219E+02
T	4.8703E+00	5.1617E+00	7.0229E+00
RHD	4.5717E+00	9.0234E+00	1.4539E+01
M	3.5996E+00	5.4333E+00	7.6667E+00
A	1.9461E+00	2.2309E+00	2.5652E+00
S	1.6544E+00	1.0394E+00	1.1217E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.8155E-01	9.8403E-01	9.3547E-01
U	3.0256E+00	1.5164E+00	1.3699E+00

SPECIES	MULE FRACTIONS
E-	9.2340E-44
HE	5.0000E-02
ME+	5.4874E-00
HE++	0.
M	7.9098E-06
M+	6.3403E-20
M2	9.5000E-01

P1 = 2.00E+03 N/SQ-M, US1 = 5.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5400E+01	7.0217E+01	1.4000E+02
T	5.0000E+00	7.0592E+00	9.0777E+00
RHD	4.5871E+00	1.1300E+01	1.7717E+01
M	5.3591E+00	7.0000E+00	1.0000E+01
A	2.2174E+00	2.0000E+00	2.0000E+00
S	1.1274E+00	1.1353E+00	1.1353E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.8403E-01	9.8403E-01	9.8403E-01
U	3.0256E+00	1.5164E+00	1.3699E+00

SPECIES	MULE FRACTIONS
E-	2.1342E-20
HE	5.0000E-02
ME+	1.9318E-00
HE++	0.
M	1.7200E-05
M+	6.3403E-20
M2	9.5000E-01

P1 = 2.00E+03 N/SQ-M, US1 = 4.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0000E+01	1.9000E+02	3.2645E+02
T	7.8717E+00	1.3543E+01	1.1965E+01
RHD	5.8177E+00	1.7527E+01	2.5533E+01
M	8.8342E+00	1.3761E+01	1.7641E+01
A	2.6737E+00	3.0443E+00	3.2467E+00
S	1.1941E+00	2.2000E+00	1.7374E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.8403E-01	9.8403E-01	9.8403E-01
U	5.1444E+00	1.7066E+00	1.5194E+00

SPECIES	MULE FRACTIONS
E-	1.1131E-15
HE	4.9912E-02
ME+	1.4514E-30
HE++	0.
M	0.7000E-03
M+	1.1144E-15
M2	9.4347E-01

P1 = 2.00E+03 N/SQ-M, US1 = 9.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.9932E+01	2.4064E+02	4.5291E+02
T	9.1010E+00	1.1895E+01	1.3162E+01
RHD	6.3931E+00	2.2067E+01	3.0677E+01
M	1.0000E+01	1.7426E+01	2.2354E+01
A	2.6700E+00	3.2756E+00	3.5316E+00
S	1.2191E+00	1.2445E+00	1.2796E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAME	9.8403E-01	9.8403E-01	9.8403E-01
U	5.1444E+00	1.7066E+00	1.5194E+00

SPECIES	MULE FRACTIONS
E-	2.6571E-13
HE	4.9205E-02
ME+	4.2609E-32
HE++	0.
M	2.8210E-02
M+	2.6137E-13
M2	9.4226E-01

Table III. - Continued

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/5J-M, US1 = 1.00E+04 M/SEC				P1 = 2.00E+03 N/50-M, US1 = 1.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	7.0209E-12	2.8193E-09	1.8254E-08	E-	1.4942E-09	2.4233E-07	1.0172E-06
HE	4.9321E-02	4.4619E-02	4.2336E-02	HE	4.3902E-02	3.7671E-02	3.5057E-02
HE+	4.3063E-29	7.6642E-23	6.3545E-21	HE+	5.2548E-24	2.2536E-19	7.4179E-17
HE++	C.	1.3442E-91	4.2224E-75	HE++	7.3236E-87	5.5105E-65	1.1951E-59
H	6.7173E-02	2.1524E-01	3.0656E-01	H	2.4362E-01	4.9316E-01	5.9771E-01
H+	7.0209E-14	4.9193E-09	1.8254E-08	H+	1.4942E-09	2.4233E-07	1.0172E-06
H2	8.8451E-01	7.4612E-01	6.5110E-01	H2	7.1218E-01	4.6917E-01	3.6723E-01
P	7.3904E+01	4.0399E+02	6.2987E+02	P	1.2864E+02	9.4650E+02	1.3819E+03
T	1.6101E+01	1.3107E+01	1.4399E+01	T	1.2366E+01	1.6573E+01	1.8199E+01
RHC	7.0666E+00	2.7301E+01	3.6512E+01	RHC	9.1338E+00	4.3029E+01	5.3242E+01
M	1.3364E+01	2.2335E+01	2.7114E+01	M	2.2665E+01	3.9207E+01	4.5970E+01
A	2.9720E+00	3.5236E+00	3.8014E+00	A	3.4284E+00	4.3639E+00	4.7842E+00
S	1.2494E+00	1.2952E+00	1.3220E+00	S	1.3503E+00	1.4177E+00	1.4674E+00
Z	1.0348E+00	1.1206E+00	1.1810E+00	Z	1.1389E+00	1.3273E+00	1.4262E+00
GAPE	9.4541E-01	9.4389E-01	8.4378E-01	GAPE	9.3459E-01	8.6572E-01	8.8187E-01
U	6.6605E+00	1.7235E+00	1.5986E+00	U	8.9911E+00	1.9099E+00	1.9612E+00

P1 = 2.00E+03 N/SQ-M, US1 = 1.40E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5015E+02	1.1951E+03	1.7235E+03
T	1.3011E+01	1.7774E+01	1.9675E+01
RHO	9.7950E+00	4.7202E+01	5.7369E+01
M	2.5462E+01	4.4523E+01	5.3512E+01
A	3.5917E+00	4.6512E+00	5.1933E+00
S	1.3867E+00	1.4648E+00	1.5189E+00
Z	1.1848E+00	1.4109E+00	1.5242E+00
GAME	8.3681E-01	9.7762E-01	9.9932E-01
U	9.7561E+00	2.0112E+00	1.9951E+00

P1 = 2.00E+03 N/SQ-M, US1 = 1.40E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.6410E+01	5.5236E+02	9.3167E+02
T	1.0941E+01	1.4275E+01	1.5611E+01
RHO	7.7737E+00	2.2722E+01	4.2498E+01
M	1.6010E+01	2.0948E+01	3.2784E+01
A	3.1260E+00	3.7819E+00	4.9711E+00
S	1.2810E+00	1.3275E+00	1.3699E+00
Z	1.0034E+00	1.1811E+00	1.2536E+00
GAME	6.3637E-01	3.4362E-01	9.5776E-01
U	7.4437E+00	1.7455E+00	1.6664E+00

SPECIES

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	4.7456E-09	7.6795E-07	3.1742E-06
HE	4.2231E-02	3.5440E-02	3.2803E-02
HE+	6.2722E-23	3.2615E-17	1.1045E-15
HE++	3.5642E-81	6.5693E-51	3.8789E-55
H	3.1157E-01	5.8239E-01	6.8786E-01
H+	4.7456E-09	7.6795E-07	3.1742E-06
H2	6.4583E-01	3.8217E-01	2.7933E-01

SPECIES

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	6.7151E-11	1.6259E-09	8.2708E-09
HE	4.7456E-09	7.6795E-07	3.1742E-06
HE+	4.2231E-02	3.5440E-02	3.2803E-02
HE++	6.2722E-23	3.2615E-17	1.1045E-15
H	3.1157E-01	5.8239E-01	6.8786E-01
H+	4.7456E-09	7.6795E-07	3.1742E-06
H2	6.4583E-01	3.8217E-01	2.7933E-01

P1 = 2.00E+03 N/SQ-M, US1 = 1.50E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7325E+22	1.4475E+02	2.1009E+03
T	1.3030E+01	4.5060E+01	2.1404E+01
RHO	1.0293E+01	5.0636E+01	6.0330E+01
M	2.9112E+01	5.1295E+01	6.1749E+01
A	3.7625E+00	5.0507E+00	5.6712E+00
S	1.4255E+00	1.5125E+00	1.5713E+00
Z	1.2335E+00	1.4988E+00	1.6275E+00
GAME	9.4246E-01	9.9239E-01	9.2320E-01
U	1.0515E+01	2.1350E+00	2.1616E+00

P1 = 2.00E+03 N/SQ-M, US1 = 1.50E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0674E+02	7.3444E+02	1.0351E+03
T	1.1584E+01	1.5415E+01	1.6463E+01
RHO	9.4723E+00	3.9100E+01	4.9183E+01
M	1.9410E+01	3.2300E+01	3.9530E+01
A	3.2710E+00	4.6500E+00	4.2420E+00
S	1.3151E+00	1.2719E+00	1.4175E+00
Z	1.0000E+00	1.2000E+00	1.3355E+00
GAME	9.3410E-01	9.5000E-01	9.6336E-01
U	9.2100E+00	1.8200E+00	1.7523E+00

SPECIES

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.3024E-08	2.1295E-06	9.8917E-06
HE	4.0000E-02	3.3333E-02	3.0720E-02
HE+	6.4348E-16	3.8265E-16	1.6421E-14
HE++	2.5322E-73	3.2681E-57	3.2622E-51
H	3.8125E-01	6.6647E-01	7.7118E-01
H+	1.3074E-09	2.1295E-06	9.8917E-06
H2	5.7824E-01	3.0319E-01	1.8908E-01

SPECIES

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.7750E-10	9.0011E-08	3.7020E-07
HE	4.0000E-02	3.3333E-02	3.0720E-02
HE+	2.5140E-25	1.2524E-19	4.7804E-19
HE++	1.8175E-91	4.6427E-70	8.1649E-65
H	1.7740E-01	4.6640E-01	5.0247E-01
H+	3.7733E-10	9.0011E-08	3.7020E-07
H2	7.7000E-01	9.5961E-01	4.6000E-01

Table III. - Continued

$$p_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/SQ-M, US1= 1.60E+04 M/SEC				P1 = 2.00E+03 N/SQ-M, US1= 1.90E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	1.9791E+02	1.7290E+03	2.5242E+03	P	2.4133E+02	2.4133E+03	6.4030E+03
T	1.4254E+01	2.0489E+01	2.3606E+01	T	1.6179E+01	2.7063E+01	3.9531E+01
RMC	1.0757E+01	5.2994E+01	6.1728E+01	RMC	1.1735E+01	5.7193E+01	5.4939E+01
M	3.3011E+01	5.9479E+01	7.0779E+01	M	4.6203E+01	4.7374E+01	1.0690E+02
A	3.9422E+00	5.4529E+00	6.2626E+00	A	4.5467E+00	7.1706E+00	9.0319E+00
S	1.4435E+00	1.5405E+00	1.6241E+00	S	1.5945E+00	1.6791E+00	1.7749E+00
Z	1.2907E+00	1.5923E+00	1.7323E+00	Z	1.4801E+00	1.8472E+00	1.9357E+00
GAME	8.4472E-01	9.1139E-01	9.5909E-01	GAME	8.6433E-01	1.0295E+00	1.0853E+00
U	1.1269E+01	2.2879E+00	2.3769E+00	U	1.3496E+01	3.0360E+00	3.6533E+00
SPECIES		MOLE FRACTIONS		SPECIES		MOLE FRACTIONS	
E-	3.2211E-08	5.8686E-06	3.3359E-05	E-	3.3650E-07	1.6494E-04	3.7966E-03
HE	3.8729E-02	3.1401E-02	2.8863E-02	HE	3.3779E-02	2.7061E-02	2.5930E-02
HE+	5.1891E-21	4.2275E-15	3.0665E-13	HE+	1.1393E-18	1.5013E-11	3.1464E-04
ME++	1.8659E-75	9.9134E-54	2.1283E-46	ME++	2.2530E-34	4.2507E-40	9.0119E-24
H	4.5048E-01	7.4396E-01	8.4539E-01	H	6.4896E-01	9.1767E-01	9.5541E-01
H+	3.2211E-08	5.8686E-06	3.3359E-05	H+	3.3650E-07	1.6494E-04	3.7966E-03
N2	5.1379E-01	2.2463E-01	1.2569E-01	N2	3.1736E-01	5.6494E-02	1.1114E-02

P1 = 2.00E+03 N/SQ-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2410E+02	2.0229E+03	2.9960E+03
T	1.4879E+01	2.2162E+01	2.6793E+01
RMO	1.1159E+01	5.6159E+01	6.1151E+01
M	3.7146E+01	6.8082E+01	8.0846E+01
A	4.1326E+00	5.9173E+00	7.0601E+00
S	1.5036E+00	1.6308E+00	1.6769E+00
Z	1.3501E+00	1.6854E+00	1.9293E+00
GAME	8.5013E-01	9.3732E-01	1.0174E+00
U	1.2014E+01	2.4794E+00	2.6916E+00

SPECIES	MOLE FRACTIONS
E-	7.3809E-08
ME	3.7034E-02
ME+	3.4929E-23
ME++	2.9144E-72
M	5.1866E-01
M+	7.3809E-08
M2	4.4431E-01

P1 = 2.00E+03 N/SQ-M, US1 = 1.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5182E+02	2.3225E+03	3.5257E+03
T	1.5512E+01	2.4257E+01	3.1900E+01
RMO	1.1485E+01	5.3973E+01	5.9374E+01
M	4.1557E+01	7.4073E+01	9.2295E+01
A	3.337E+00	6.4777E+00	9.1009E+00
S	1.5447E+00	1.6548E+00	1.7281E+00
Z	1.4134E+00	1.7739E+00	1.9993E+00
GAME	8.5658E-01	9.7514E-01	1.0765E+00
U	1.2766E+01	2.7128E+00	3.1255E+00

SPECIES	MOLE FRACTIONS
E-	1.6026E-07
ME	3.5375E-02
ME+	2.6657E-19
ME++	1.6290E-69
M	5.9560E-01
M+	1.6026E-07
M2	3.7993E-01

P1 = 2.00E+03 N/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1168E+02	2.3753E+03	4.6921E+03
T	1.6894E+01	3.3971E+01	5.5179E+01
RMO	1.1501E+01	4.5015E+01	5.2464E+01
M	5.1277E+01	5.6921E+01	1.0311E+02
A	4.7834E+00	7.9773E+00	9.5773E+00
S	1.6299E+00	1.7645E+00	1.8153E+00
Z	1.5501E+00	1.9051E+00	1.9612E+00
GAME	8.7387E-01	1.0649E+00	1.0357E+00
U	1.4225E+01	3.5567E+00	4.1327E+00

SPECIES	MOLE FRACTIONS
E-	7.0273E-07
ME	3.4223E-02
ME+	6.5543E-19
ME++	1.3014E-63
M	7.0671E-01
M+	7.3275E-07
M2	2.5549E-01

P1 = 2.00E+03 N/SQ-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4374E+02	3.1152E+03	5.2346E+03
T	1.7699E+01	3.5533E+01	5.2659E+01
RMO	1.1981E+01	4.5654E+01	5.1957E+01
M	5.6237E+01	9.3712E+01	1.3097E+02
A	5.0423E+00	8.6721E+00	1.0322E+01
S	1.6715E+00	1.7779E+00	1.8494E+00
Z	1.6221E+00	1.9235E+00	1.9889E+00
GAME	3.8609E-01	1.0073E+00	9.2705E-01
U	1.4945E+01	3.3366E+00	4.4939E+00

SPECIES	MOLE FRACTIONS
E-	1.6733E-06
ME	3.3925E-02
ME+	3.6911E-17
ME++	5.7622E-61
M	7.6691E-01
M+	2.6733E-06
M2	2.0218E-01

$$p_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/SQ-M.

US1= 2.20E+04 M/SEC.

P1 = 2.00E+03 N/50-M, US1 = 2.50E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.7705E+02	3.3353E+03		4.8267E+02	3.8274E+03	6.7176E+03
Y	1.8607E+01	4.3041E+01	5.5350E+01	2.3314E+01	5.2777E+01	6.5985E+01
RMC	1.1954E+01	4.2371E+01	5.1361E+01	1.3557E+01	3.6140E+01	4.7653E+01
M	6.1621E+01	1.2080E+02	1.4397E+02	7.9179E+01	1.3843E+02	1.4323E+02
A	5.3355E+02	9.1553E+00	1.0437E+01	6.7384E+00	1.0145E+01	1.1545E+01
W	1.7141E+00	1.6128E+00	1.4919E+00	1.8373E+00	1.9554E+00	1.9753E+00
Z	1.6950E+00	1.59470E+00	2.3212E+00	1.8880E+00	2.7142E+00	2.1364E+00
GAME	9.5273E-01	1.0659E+00	9.7347E-01	1.0257E+00	9.7191E-01	9.4551E-01
U	1.5655E+01	4.4145E+00	7.7482E+00	1.7643E+01	5.3703E+00	5.2727E+00

SPECIES	MOLE FRACTIONS		SPECIES	MOLE FRACTIONS	
E-	3.2195E-06	6.3550F-03	E-	6.8909E-05	3.4241E-02
HE	2.9408E-02	2.5670F-02	HE	2.6493E-02	2.4919E-02
ME+	2.6208E-16	9.2733E-06	HE+	4.8180E-13	5.5107E-06
ME+	6.3741E-50	2.6616E-26	HE+	5.3139E-46	9.5641F-20
H	8.2038F-21	9.5502E-01	H	9.4047E-01	9.0435E-01
M+	3.2195E-06	6.0659E-03	M+	6.9909E-05	3.4239E-02
M2	1.5042F-01	7.2014E-03	M2	2.3509E-02	2.3509E-03

P1 = 2.00E+03 N/SQ-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1159E+02	3.5428E+03	6.1963E+03
T	1.9728E+01	4.4936E+01	5.9631E+01
RHO	1.1808E+01	4.0397E+01	5.0705E+01
M	6.7244E+01	1.1830E+02	1.5708E+02
A	5.6853E+00	9.5209E+00	1.0428E+01
S	1.7564E+00	1.8437E+00	1.9120E+00
Z	1.7666E+00	1.9662E+00	2.0572E+00
GAME	9.2724E-01	1.0259E+00	9.5955E-01
U	1.6347E+01	4.8118E+00	4.9628E+00

SPECIES	WILE FRACTIONS
E-	7.5727E-06
HE	2.8299E-02
HE+	1.8806E-15
HE++	2.5992E-55
M	8.6820E-01
M+	7.5737E-06
M2	1.0369E-01
	1.2822E-02
	4.5630E-03
	5.4300E-02
	2.4283E-02
	2.2753E-05
	1.9608E-17
	8.6491E-01
	5.6277E-02
	2.7125E-03

P1 = 2.00E+03 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4652E+02	3.7173E+03	6.5415E+03
T	2.1203E+01	4.9031E+01	6.2936E+01
RHO	1.1491E+01	3.8120E+01	4.9593E+01
M	7.3103E+01	1.2916E+02	1.7022E+02
A	6.1288E+00	9.8450E+00	1.1203E+01
S	1.7974E+00	1.8747E+00	1.9437E+00
Z	1.8333E+00	1.9884E+00	2.0958E+00
GAME	9.6633E-01	9.9395E-01	9.5101E-01
U	1.7016E+01	5.1291E+00	5.1356E+00

SPECIES	WILE FRACTIONS
E-	2.0493E-05
HE	2.7273E-02
HE+	2.1390E-14
HE++	1.0296E-50
M	9.0903E-01
M+	2.0493E-05
M2	6.3659E-02
	3.1720E-03
	7.1351E-02
	2.3911E-02
	4.5670E-05
	2.3743E-21
	9.2670E-01
	8.3172E-01
	7.1305E-02
	1.7693E-03

P1 = 2.00E+03 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1949E+02	3.9697E+03	6.7379E+03
T	2.6244E+01	5.5692E+01	6.8615E+01
RHO	1.0277E+01	3.4037E+01	4.5082E+01
M	8.5455E+01	1.4963E+02	1.9597E+02
A	7.4322E+00	1.4335E+01	1.1864E+01
S	1.8732E+00	1.9366E+00	2.0069E+00
Z	1.9225E+00	2.0436E+00	2.1782E+00
GAME	1.0952E+00	9.5894E-01	9.4191E-01
U	1.8224E+01	5.5353E+00	5.3808E+00

SPECIES	WILE FRACTIONS
E-	2.7277E-04
HE	2.6014E-02
HE+	1.2377E-11
HE++	1.2399E-42
M	9.5822E-01
M+	2.7277E-04
M2	1.4816E-02
	4.7599E-02
	1.8023E-03
	1.0592E-01
	2.2931E-02
	1.2405E-04
	8.4092E-15
	7.6641E-01
	1.0599E-01
	1.1606E-03

P1 = 2.00E+03 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5459E+02	3.8757E+03	6.6734E+03
T	2.9914E+01	5.8433E+01	7.0041E+01
RHO	4.5555E+00	3.1004E+01	4.2354E+01
M	9.1944E+01	1.5009E+02	2.0267E+02
A	8.0444E+00	1.0713E+01	1.2166E+01
S	1.5061E+00	1.5572E+00	2.0397E+00
Z	1.9393E+00	2.0757E+00	2.2211E+00
GAME	1.1150E+00	9.4650E-01	9.3033E-01
U	1.9771E+01	5.6112E+00	5.4699E+00

SPECIES	WILE FRACTIONS
E-	1.0503E-02
HE	4.5743E-02
HE+	3.0959E-10
HE++	2.1523E-35
M	9.6311E-01
M+	1.0599E-03
M2	0.6049E-03
	4.1510E-03
	2.4045E-02
	2.3223E-05
	1.4025E-17
	9.5256E-01
	7.3077E-01
	1.2240E-02
	9.4759E-04

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

$$p_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/SO-W, US1 = 3.26E+01 W/SEC			
	MOVING SWCK	STANDING SWCK	REFLECTED SWCK
P	7.637E+02	4.720E+03	7.793E+03
T	7.064E+01	7.106E+01	8.329E+01
RMD	9.219E+03	2.919E+01	3.703E+01
M	1.282E+02	2.201E+02	2.830E+02
H	9.392E+00	1.227E+01	1.391E+01
S	2.034E+03	2.175E+03	2.183E+00
Z	2.014E+03	2.275E+03	2.469E+00
L	9.493E+01	5.315E+01	9.414E+01
GAME	2.192E+01	3.192E+01	6.041E+03
U			
SPECIES	MULTI FRACTIONS		
F-	3.261E-02	1.434E-01	2.105E-01
MC	2.482E-02	2.175E-02	1.940E-02
HE+	1.690E-06	4.195E-06	9.522E-06
ME+	3.439E-22	4.939E-14	9.086E-12
M	9.951E-01	6.976E-01	5.501E-01
M+	3.261E-02	1.337E-01	2.396E-01
M2	9.113E-06	5.995E-06	4.073E-06

P1 = 2.00E+03 N/SO-W, US1 = 2.90E+04 W/SEC			
	MOVING SWCK	STANDING SWCK	REFLECTED SWCK
P	3.921E+03	6.672E+03	7.321E+03
T	3.376E+01	6.100E+01	6.423E+01
RMD	8.990E+00	3.403E+01	2.217E+01
M	1.699E+02	1.217E+01	1.247E+01
H	8.452E+03	1.110E+01	2.769E+03
S	1.635E+03	1.977E+03	2.265E+00
Z	1.949E+00	2.110E+00	9.379E+01
L	1.095E+03	9.397E+01	5.554E+00
GAME	1.932E+01	5.702E+00	
U			
SPECIES	MULTI FRACTIONS		
E-	3.233E-03	7.719E-02	1.401E-01
ME	2.564E-02	2.365E-02	2.145E-02
ME+	5.435E-09	5.011E-09	2.530E-04
ME++	4.135E-01	1.041E-16	1.059E-13
M	9.642E-01	9.291E-01	6.971E-01
M+	3.233E-03	7.715E-02	1.394E-01
M2	3.363E-03	1.149E-03	7.937E-04

PI = 2.00E+03 N/50-M, US1= 2.90E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3137E+02	4.0311E+03	6.7923E+03
T	3.7400E+01	2.3522E+01	7.5557E+01
RMC	8.6095E+00	2.9366E+01	3.8472E+01
M	1.055E+02	1.4149E+02	2.3565E+02
A	8.7269E+00	1.1297E+01	1.2800E+01
S	1.6623E+01	2.0257E+00	2.3092E+00
Z	1.9609E+00	2.1479E+00	2.3126E+00
GAME	1.0395E+00	9.3539E-01	5.3769E-01
U	1.9905E+01	5.7976E+00	5.6605E+00

SPECIES	MOLE FRACTIONS
E-	7.0225E-03
HE	2.5535E-02
ME	4.3214E-02
ME+	5.9105E-16
M	9.5743E-01
H+	7.5225E-01
M2	2.0225E-03

PI = 2.00E+03 N/50-M, US1= 3.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7325E+02	4.2087E+03	7.0332E+03
T	4.645E+01	5.6335E+01	7.9730E+01
RMC	8.3834E+00	2.6131E+01	3.9157E+01
M	1.1201E+02	1.6159E+02	2.5053E+02
A	9.5534E+00	1.1075E+01	1.3151E+01
S	1.9975E+01	2.6509E+01	2.1259E+00
Z	1.9751E+01	2.187E+00	2.3627E+00
GAME	9.5831E-01	6.3246E-01	9.3924E-01
U	2.0514E+01	5.9024E+00	5.7747E+00

SPECIES	MOLE FRACTIONS
E-	1.6774E-02
HE	2.5315E-02
ME	2.0208E-02
ME+	1.6421E-15
M	7.6515E-01
M+	1.4074E-02
M2	1.3774E-03

PI = 2.00E+03 N/50-M, US1= 3.40E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.6244E+02	5.3806E+03	9.8079E+03
T	5.6684E+01	7.6137E+01	8.8474E+01
RMC	2.9931E+01	2.2441E+01	3.8379E+01
M	1.4467E+02	2.4677E+02	3.1984E+02
A	9.9641E+00	1.2275E+01	1.4747E+01
S	2.0747E+00	2.1559E+00	2.2398E+00
Z	2.0697E+00	2.3697E+00	2.5924E+00
GAME	5.6634E-01	9.3342E-01	9.4753E-01
U	4.3611E+01	6.4058E+00	6.3654E+00

SPECIES	MOLE FRACTIONS
E-	5.5077E-02
HE	2.4210E-02
ME	6.7795E-02
ME+	5.7140E-16
M	9.6347E-01
M+	5.5371E-01
M2	5.5345E-04

PI = 2.00E+03 N/50-M, US1= 3.60E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.6953E+02	6.1450E+03	1.0014E+04
T	5.4603E+01	3.1153E+01	9.4735E+01
RMC	1.2527E+00	3.5552E+01	3.9111E+01
M	1.6213E+02	2.7747E+02	3.5755E+02
A	1.6333E+01	1.3755E+01	1.5610E+01
S	2.1234E+00	2.2553E+00	2.2934E+00
Z	2.1224E+00	2.4733E+00	2.7020E+00
GAME	5.1554E-01	9.3713E-01	9.5298E-01
U	2.4613E+01	6.6958E+00	6.6822E+00

SPECIES	MOLE FRACTIONS
E-	9.1639E-02
HE	2.3530E-02
ME	1.9434E-04
ME+	2.5431E-16
M	8.1277E-01
M+	9.1041E-02
M2	4.1450E-04

Table III. - Continued

$$P_1 = 2 \text{ KN/m}^2$$

P1 = 2.00E+03 N/50-m, US1 = 1.00E+04 M/SEC				P1 = 2.00E+03 N/50-m, US1 = 4.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
P	T	RHC	M	P	T	RHC	M
1.091E+03	6.055E+03	1.175E+04	1.06E+02	1.458E+03	9.927E+03	1.619E+04	1.619E+04
5.022E+01	9.623E+01	1.06E+02	3.796E+01	6.799E+01	1.029E+02	1.221E+02	1.221E+02
6.403E+00	3.014E+01	3.014E+01	3.014E+01	8.921E+00	3.344E+01	4.132E+01	4.132E+01
1.000E+02	3.012E+02	3.012E+02	3.012E+02	2.421E+02	4.209E+02	5.408E+02	5.408E+02
1.076E+01	1.645E+01	1.645E+01	1.645E+01	1.220E+01	1.689E+01	1.975E+01	1.975E+01
2.016E+00	2.016E+00	2.016E+00	2.016E+00	2.297E+00	2.407E+00	2.509E+00	2.509E+00
2.016E+00	2.016E+00	2.016E+00	2.016E+00	2.465E+00	2.937E+00	3.209E+00	3.209E+00
3.013E+01	3.013E+01	3.013E+01	3.013E+01	9.113E+01	9.113E+01	9.992E+01	9.992E+01
2.003E+01	2.003E+01	2.003E+01	2.003E+01	3.034E+01	3.034E+01	3.034E+01	3.034E+01
STANDING SHOCK				STANDING SHOCK			
P	T	RHC	M	P	T	RHC	M
1.091E+03	6.055E+03	1.175E+04	1.06E+02	1.458E+03	9.927E+03	1.619E+04	1.619E+04
5.022E+01	9.623E+01	1.06E+02	3.796E+01	6.799E+01	1.029E+02	1.221E+02	1.221E+02
6.403E+00	3.014E+01	3.014E+01	3.014E+01	8.921E+00	3.344E+01	4.132E+01	4.132E+01
1.000E+02	3.012E+02	3.012E+02	3.012E+02	2.421E+02	4.209E+02	5.408E+02	5.408E+02
1.076E+01	1.645E+01	1.645E+01	1.645E+01	1.220E+01	1.689E+01	1.975E+01	1.975E+01
2.016E+00	2.016E+00	2.016E+00	2.016E+00	2.297E+00	2.407E+00	2.509E+00	2.509E+00
2.016E+00	2.016E+00	2.016E+00	2.016E+00	2.465E+00	2.937E+00	3.209E+00	3.209E+00
3.013E+01	3.013E+01	3.013E+01	3.013E+01	9.113E+01	9.113E+01	9.992E+01	9.992E+01
2.003E+01	2.003E+01	2.003E+01	2.003E+01	3.034E+01	3.034E+01	3.034E+01	3.034E+01
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHC	M	P	T	RHC	M
1.091E+03	6.055E+03	1.175E+04	1.06E+02	1.458E+03	9.927E+03	1.619E+04	1.619E+04
5.022E+01	9.623E+01	1.06E+02	3.796E+01	6.799E+01	1.029E+02	1.221E+02	1.221E+02
6.403E+00	3.014E+01	3.014E+01	3.014E+01	8.921E+00	3.344E+01	4.132E+01	4.132E+01
1.000E+02	3.012E+02	3.012E+02	3.012E+02	2.421E+02	4.209E+02	5.408E+02	5.408E+02
1.076E+01	1.645E+01	1.645E+01	1.645E+01	1.220E+01	1.689E+01	1.975E+01	1.975E+01
2.016E+00	2.016E+00	2.016E+00	2.016E+00	2.297E+00	2.407E+00	2.509E+00	2.509E+00
2.016E+00	2.016E+00	2.016E+00	2.016E+00	2.465E+00	2.937E+00	3.209E+00	3.209E+00
3.013E+01	3.013E+01	3.013E+01	3.013E+01	9.113E+01	9.113E+01	9.992E+01	9.992E+01
2.003E+01	2.003E+01	2.003E+01	2.003E+01	3.034E+01	3.034E+01	3.034E+01	3.034E+01

SPECIES				SPECIES			
WAVE FRACTIONS				WAVE FRACTIONS			
F	ME	HE	ME	F	ME	HE	ME
1.091E+03	6.055E+03	1.175E+04	1.06E+02	1.458E+03	9.927E+03	1.619E+04	1.619E+04
5.022E+01	9.623E+01	1.06E+02	3.796E+01	6.799E+01	1.029E+02	1.221E+02	1.221E+02
6.403E+00	3.014E+01	3.014E+01	3.014E+01	8.921E+00	3.344E+01	4.132E+01	4.132E+01
1.000E+02	3.012E+02	3.012E+02	3.012E+02	2.421E+02	4.209E+02	5.408E+02	5.408E+02
1.076E+01	1.645E+01	1.645E+01	1.645E+01	1.220E+01	1.689E+01	1.975E+01	1.975E+01
2.016E+00	2.016E+00	2.016E+00	2.016E+00	2.297E+00	2.407E+00	2.509E+00	2.509E+00
2.016E+00	2.016E+00	2.016E+00	2.016E+00	2.465E+00	2.937E+00	3.209E+00	3.209E+00
3.013E+01	3.013E+01	3.013E+01	3.013E+01	9.113E+01	9.113E+01	9.992E+01	9.992E+01
2.003E+01	2.003E+01	2.003E+01	2.003E+01	3.034E+01	3.034E+01	3.034E+01	3.034E+01

P1 = 2.00E+03 N/50-M, US1 = 4.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.071E+03	1.099E+04	1.002E+04
T	7.093E+01	1.078E+02	1.309E+02
RND	9.346E+02	3.374E+01	4.131E+01
M	2.640E+02	4.607E+02	5.940E+02
A	1.778E+01	1.778E+01	2.103E+01
S	2.361E+00	2.452E+00	2.564E+00
Z	2.493E+00	3.022E+00	3.335E+00
GAME	5.138E+01	9.708E+01	1.014E+02
U	3.177E+01	8.555E+00	8.895E+00

SPECIES

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.171E-01	3.542E-01	4.153E-01
HE	1.969E-02	1.144E-02	6.053E-03
HE+	3.765E-04	5.154E-03	8.738E-03
HE++	1.555E-13	1.365E-08	6.266E-07
H	5.452E-1	2.749E-01	1.632E-01
M+	2.164E-01	3.497E-01	4.064E-01
M2	1.265E-04	7.515E-05	2.796E-05

P1 = 2.00E+03 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.741E+03	1.226E+04	1.397E+04
T	7.996E+01	1.139E+02	1.432E+02
RND	9.142E+02	3.382E+01	4.107E+01
M	2.991E+02	5.019E+02	6.505E+02
A	1.321E+01	1.871E+01	2.452E+01
S	2.355E+00	2.531E+00	2.617E+00
Z	2.575E+00	3.134E+00	3.456E+00
GAME	9.171E+01	9.911E+01	1.030E+02
U	3.350E+01	8.947E+00	9.515E+00

SPECIES

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.429E-01	3.775E-01	4.755E-01
HE	1.984E-02	9.534E-03	4.401E-03
HE+	5.674E-04	6.414E-03	1.030E-02
HE++	7.190E-13	4.709E-08	2.273E-06
H	4.953E-01	2.344E-01	1.244E-01
M+	2.423E-01	3.715E-01	4.255E-01
M2	1.001E-04	5.176E-05	1.559E-05

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

P1 = 2.00E+03 N/50-M, US1 = 4.03E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.071E+03	1.099E+04	1.002E+04
T	7.093E+01	1.078E+02	1.309E+02
RND	9.346E+02	3.374E+01	4.131E+01
M	2.640E+02	4.607E+02	5.940E+02
A	1.778E+01	1.778E+01	2.103E+01
S	2.361E+00	2.452E+00	2.564E+00
Z	2.493E+00	3.022E+00	3.335E+00
GAME	5.138E+01	9.708E+01	1.014E+02
U	3.177E+01	8.555E+00	8.895E+00

SPECIES

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.171E-01	3.542E-01	4.153E-01
HE	1.969E-02	1.144E-02	6.053E-03
HE+	3.765E-04	5.154E-03	8.738E-03
HE++	1.555E-13	1.365E-08	6.266E-07
H	5.452E-1	2.749E-01	1.632E-01
M+	2.164E-01	3.497E-01	4.064E-01
M2	1.265E-04	7.515E-05	2.796E-05

P1 = 2.00E+03 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.741E+03	1.226E+04	1.397E+04
T	7.996E+01	1.139E+02	1.432E+02
RND	9.142E+02	3.382E+01	4.107E+01
M	2.991E+02	5.019E+02	6.505E+02
A	1.321E+01	1.871E+01	2.452E+01
S	2.355E+00	2.531E+00	2.617E+00
Z	2.575E+00	3.134E+00	3.456E+00
GAME	9.171E+01	9.911E+01	1.030E+02
U	3.350E+01	8.947E+00	9.515E+00

SPECIES

SPECIES	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.429E-01	3.775E-01	4.755E-01
HE	1.984E-02	9.534E-03	4.401E-03
HE+	5.674E-04	6.414E-03	1.030E-02
HE++	7.190E-13	4.709E-08	2.273E-06
H	4.953E-01	2.344E-01	1.244E-01
M+	2.423E-01	3.715E-01	4.255E-01
M2	1.001E-04	5.176E-05	1.559E-05

Table III. - Continued

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 N/SQ-M, US1 = 5.00E+04 M/SEC				P1 = 2.00E+03 N/SQ-M, US1 = 5.00E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.6767E-01	3.9929E-01	4.5314E-01	E-	3.3580E-01	4.4984E-01	4.8571E-01
HE	1.7951E-02	7.6955E-03	3.2107E-03	HE	1.4911E-02	3.4997E-03	1.2197E-03
HE+	8.2842E-04	7.7079E-03	1.0903E-02	HE+	2.2206E-03	1.0603E-02	1.1543E-02
HE++	2.9824E-12	1.5259E-07	8.4446E-06	HE++	1.3437E-10	3.7950E-06	4.2494E-04
H	4.4663E-01	1.9369E-01	9.0507E-02	H	3.1355E-01	9.6809E-02	2.7777E-02
H+	2.6684E-01	3.9159E-01	4.4232E-01	H+	3.3386E-01	4.3923E-01	4.7332E-01
H2	7.8577E-05	3.4234E-05	7.9329E-06	H2	3.5313E-05	7.5162E-06	5.9875E-07
P	1.8914E+03	1.3200E+04	2.2040E+04	P	2.3766E+03	1.6513E+04	2.8899E+04
T	7.7001E+01	1.2031E+02	1.5279E+02	T	8.6450E+01	1.4369E+02	2.0428E+02
RHO	9.2261E+00	3.3801E+01	4.0455E+01	RHO	9.3642E+00	3.2423E+01	3.7309E+01
M	3.1263E+02	5.4469E+02	7.1156E+02	M	3.9205E+02	6.8138E+02	9.1896E+02
A	1.3741E+01	1.9739E+01	2.4059E+01	A	1.5410E+01	2.3117E+01	2.9622E+01
S	2.4298E+00	2.5498E+00	2.6707E+00	S	2.5620E+00	2.6881E+00	2.8202E+00
Z	2.6624E+00	3.2463E+00	3.5658E+00	Z	2.9357E+00	3.5444E+00	3.7917E+00
GAMF	9.2096E-01	9.9466E-01	1.0624E+00	GAMF	9.3562E-01	1.0493E+00	1.1328E+00
U	3.4623E+01	9.4460E+00	1.0233E+01	U	3.8846E+01	1.1211E+01	1.3002E+01

P1 = 2.00E+03 N/SQ-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0474E+03	1.4327E+04	2.4206E+04
T	8.0076E+01	1.2726E+02	1.6684E+02
RHC	9.2912E+00	3.3594E+01	3.9650E+01
M	3.3812E+02	5.8901E+02	7.5928E+02
A	1.4280E+01	2.0755E+01	2.5798E+01
S	2.4740E+00	2.5962E+00	2.7214E+00
Z	2.7519E+00	3.3511E+00	3.6592E+00
GAME	9.2532E-01	1.0100E+00	1.0502E+00
U	3.6038E+01	9.9582E+00	1.1022E+01

SPECIES ----- MOLE FRACTIONS -----

E-	2.9146E-01	4.1813E-01	4.6710E-01
HE	1.6992E-02	6.6602E-03	2.3207E-03
HE+	1.1774E-03	8.8597E-03	1.1313E-02
HE++	1.1329E-11	4.6162E-07	3.1320E-05
H	4.0002E-01	1.5766E-01	6.3537E-02
H+	2.9029E-01	4.3927E-01	4.5373E-01
M2	6.1029E-05	2.1920E-05	3.6293E-06

P1 = 2.00E+03 N/SQ-M, US1 = 5.43E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2392E+03	1.5437E+04	2.6502E+04
T	8.3216E+01	1.3493E+02	1.9404E+02
RHC	9.3373E+00	3.3167E+01	3.9550E+01
M	3.6439E+02	5.3463E+02	9.4525E+02
A	1.4835E+01	2.1874E+01	2.7703E+01
S	2.5183E+00	2.6517E+00	2.7719E+00
Z	2.8432E+00	3.4502E+00	3.7355E+00
GAME	9.3019E-01	1.0250E+00	1.1163E+00
U	3.7446E+01	1.0342E+01	1.1963E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.1419E-01	4.3483E-01	4.7798E-01
HE	1.5951E-02	4.6655E-03	1.6775E-03
HE+	1.6345E-03	9.5250E-03	1.1590E-02
HE++	4.0132E-11	1.3477E-06	1.1772E-04
H	3.5562E-01	1.2546E-01	4.2475E-02
H+	3.1256E-01	4.2501E-01	4.6646E-01
M2	4.6738E-05	1.3359E-05	1.5107E-06

P1 = 2.00E+03 N/SQ-M, US1 = 5.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5452E+03	1.7552E+04	3.1343E+04
T	8.9913E+01	1.5334E+02	2.2614E+02
RHC	9.3717E+00	3.1578E+01	3.6178E+01
M	4.2049E+02	7.2927E+02	9.9580E+02
A	1.6006E+01	2.4408E+01	3.1349E+01
S	2.6067E+00	2.7313E+00	2.8646E+00
Z	3.0290E+00	3.6247E+00	3.8303E+00
GAME	9.4172E-01	1.0719E+00	1.1343E+00
U	4.0237E+01	1.1946E+01	1.4061E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.5626E-01	4.6203E-01	4.9090E-01
HE	1.3553E-02	2.6321E-03	9.7792E-04
HE+	2.9535E-03	1.1151E-02	1.0906E-02
HE++	4.2970E-10	1.1344E-05	1.2694E-03
H	2.7391E-01	7.3321E-02	1.8982E-02
H+	3.5330E-01	4.5045E-01	4.7746E-01
M2	2.6163E-05	4.0667E-06	2.5024E-07

P1 = 2.00E+03 N/SQ-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7278E+03	1.8526E+04	3.3795E+04
T	9.3361E+01	1.6445E+02	2.4935E+02
RHC	9.3556E+00	3.0492E+01	3.5114E+01
M	4.4990E+02	7.7409E+02	1.0755E+03
A	1.6632E+01	2.5795E+01	3.2053E+01
S	2.6511E+00	2.7743E+00	2.9064E+00
Z	3.1231E+00	3.6940E+00	3.8598E+00
GAME	9.4972E-01	1.0952E+00	1.1283E+00
U	4.1617E+01	1.2763E+01	1.5124E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.7564E-01	4.7212E-01	4.9479E-01
HE	1.2161E-02	1.9713E-03	5.9135E-04
HE+	3.8488E-03	1.1531E-02	9.3746E-03
HE++	1.3323E-09	3.2914E-05	2.5882E-03
H	2.3654E-01	5.3816E-02	1.2817E-02
H+	3.7179E-01	4.6023E-01	4.7944E-01
M2	1.8915E-05	2.9440E-06	1.1217E-07

Table III. - Continued

$$P_1 = 2 \text{ kN/m}^2$$

P1 = 2.00E+03 M/SQ-M, US1= 6.20E+04 M/SEC				P1 = 2.00E+03 M/SQ-M, US1= 6.80E+04 M/SEC					
		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P		2.9115E+03	1.9456E+04	3.6265E+04	P		3.4911E+03	2.1760E+04	4.3365E+04
T		9.7087E+01	1.7673E+02	2.7372E+02	T		1.1034E+02	2.1961E+02	3.5455E+02
RHO		9.3266E+00	2.9371E+01	3.4108E+01	RHO		9.0874E+00	2.5772E+01	3.1143E+01
M		4.8029E+02	9.2786E+02	1.1576E+03	M		5.7719E+02	9.4170E+02	1.4204E+03
A		1.7283E+01	2.7185E+01	3.4655E+01	A		1.9536E+01	3.0956E+01	4.0349E+01
S		2.6945E+00	2.8143E+00	2.9471E+00	S		2.8222E+00	2.9244E+00	3.0541E+00
Z		3.2154E+00	3.7482E+00	3.8843E+00	Z		3.4815E+00	3.8447E+00	3.9274E+00
GAME		9.5682E-01	1.1157E+00	1.1296E+00	GAME		9.9342E-01	1.1350E+00	1.1692E+00
U		4.2988E+01	1.3643E+01	1.6173E+01	U		4.7000E+01	1.6582E+01	1.9390E+01
SPECIES		----- MOLE FRACTIONS -----		SPECIES		----- MOLE FRACTIONS -----			
E-		3.9355E-01	4.7975E-01	4.9798E-01	E-		4.3991E-01	4.9291E-01	5.0349E-01
HE		1.0666E-02	1.5017E-03	3.5440E-04	HE		5.8580E-03	6.8468E-04	4.5244E-05
HE+		4.8839E-03	1.1747E-02	7.0807E-03	HE+		8.5034E-03	1.1021E-02	1.0267E-03
ME+		3.9609E-09	9.1246E-05	5.4291E-03	ME+		9.5816E-08	1.2987E-03	1.0759E-02
M		2.0221E-01	3.9096E-02	9.1065E-03	M		1.1433E-01	1.4994E-02	3.7292E-03
M+		3.8867E-01	4.6782E-01	4.8004E-01	M+		4.3140E-01	4.7919E-01	4.8005E-01
M?		1.3391E-05	1.0037E-06	5.3751E-08	M?		3.9606E-06	1.1803E-07	7.9077E-09

P1 = 2.00E+03 N/SQ-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6926E+03	2.2385E+04	4.5542E+04
T	1.1580E+02	2.3522E+02	3.9594E+02
RHO	8.9527E+00	2.4626E+01	3.0028E+01
M	6.1136E+02	1.0347E+03	1.5141E+03
A	2.0428E+01	3.2030E+01	4.2243E+01
S	2.9642E+03	2.9595E+00	3.0978E+00
Z	3.5618E+00	3.8646E+00	3.9338E+00
GAME	1.0117E+00	1.1296E+00	1.1766E+00
U	4.8292E+01	1.7547E+01	2.0542E+01

SPECIES
MOLE FRACTIONS

E-	4.5253E-01	4.9541E-01	5.0430E-01
HE	4.4085E-03	5.0407E-04	4.1413E-05
HE+	9.6290E-03	9.9219E-03	1.2369E-03
HE++	2.7629E-07	2.5122E-03	1.1452E-02
H	9.0535E-02	1.1181E-02	2.8263E-03
H+	4.4290E-01	4.9047E-01	4.8016E-01
H2	2.2704E-06	6.1239E-08	4.3512E-09

P1 = 2.00E+03 N/SQ-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1000E+03	2.0305E+04	3.8632E+04
T	1.0114E+02	1.9004E+02	2.9824E+02
RHO	9.2657E+00	2.8198E+01	3.3187E+01
M	5.1164E+02	8.7852E+02	1.2412E+03
A	1.7984E+01	2.8531E+01	3.6449E+01
S	2.7384E+00	2.9521E+00	2.9835E+00
Z	3.3078E+00	3.7893E+00	3.9032E+00
GAME	9.6668E-01	1.1304E+00	1.1413E+00
U	4.4341E+01	1.4561E+01	1.7160E+01

SPECIES
MOLE FRACTIONS

E-	4.1050E-01	4.8539E-01	5.0041E-01
HE	9.0571E-03	1.1404E-03	1.9440E-04
HE+	6.0587E-03	1.1794E-02	4.8702E-03
HE++	1.1692E-08	2.3919E-04	7.7453E-03
H	1.6994E-01	2.8299E-02	6.7233E-03
H+	4.0444E-01	4.7312E-01	4.8009E-01
H2	9.1254E-06	4.8819E-07	2.8034E-08

P1 = 2.00E+03 N/SQ-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2934E+03	2.1072E+04	4.1049E+04
T	1.0349E+02	2.0468E+02	3.2541E+02
RHO	9.1928E+00	2.6943E+01	3.2199E+01
M	5.4395E+02	9.2967E+02	1.3292E+03
A	1.8724E+01	2.9820E+01	3.9405E+01
S	2.7807E+00	2.8895E+00	3.0195E+00
Z	3.3964E+00	3.9210E+00	3.9177E+00
GAME	9.7857E-01	1.1370E+00	1.1569E+00
U	4.5482E+01	1.5576E+01	1.8253E+01

SPECIES
MOLE FRACTIONS

E-	4.2581E-01	4.8947E-01	5.0225E-01
HE	7.4427E-03	8.9344E-04	9.5711E-05
HE+	7.2803E-03	1.1597E-02	3.0842E-03
HE++	3.3404E-08	5.9526E-04	9.5823E-03
H	1.4093E-01	2.0370E-02	4.9794E-03
H+	4.1853E-01	4.7688E-01	4.8008E-01
H2	6.0423E-06	2.3409E-07	1.4721E-08

Table III. - Continued

$$p_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/SQ-M, US1 = 4.00E+03 M/SEC				P1 = 5.00E+03 N/SQ-M, US1 = 7.00E+03 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHC	M	P	T	RHC	M
1.112E+01	2.308E+01	5.654E+01	5.654E+01	3.493E+01	1.253E+02	2.365E+02	2.365E+02
2.924E+00	3.508E+00	4.952E+00	4.952E+00	6.471E+00	9.048E+00	1.094E+01	1.094E+01
3.937E+00	6.582E+00	1.141E+01	1.141E+01	5.381E+00	1.374E+01	2.091E+01	2.091E+01
2.988E+00	3.610E+00	5.195E+00	5.195E+00	6.967E+00	1.043E+01	1.390E+01	1.390E+01
1.675E+00	1.860E+00	2.188E+00	2.188E+00	2.474E+00	2.852E+00	3.114E+00	3.114E+00
1.063E+00	1.065E+00	1.045E+00	1.045E+00	1.166E+00	1.178E+00	1.256E+00	1.256E+00
1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
9.943E-01	9.863E-01	9.669E-01	9.669E-01	9.461E-01	8.956E-01	8.645E-01	8.645E-01
2.317E+00	1.385E+00	1.221E+00	1.221E+00	4.426E+00	1.732E+00	1.535E+00	1.535E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.734E-66	7.291E-48	9.661E-32	E-	1.245E-19	5.451E-14	1.724E-11
HE	5.000E-02	5.000E-02	5.000E-02	HE	4.999E-02	4.970E-02	4.878E-02
ME+	2.791E-72	2.474E-61	5.653E-52	ME+	1.833E-44	1.710E-32	3.809E-27
ME++	0.	0.	0.	ME++	0.	0.	0.
H	1.377E-11	1.832E-09	4.304E-06	H	3.95E-04	1.165E-02	4.864E-02
H+	6.346E-20	5.346E-20	6.346E-20	H+	1.88E-19	5.451E-14	1.724E-11
M2	9.500E-01	5.500E-01	9.500E-01	M2	9.49E-01	9.396E-01	9.325E-01

P1 = 5.00E+03 N/50-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.752E+01	4.658E+01	1.021E+02
T	3.870E+00	5.161E+00	7.037E+00
RHO	4.526E+00	9.023E+00	1.452E+01
M	3.996E+00	5.433E+00	7.649E+00
A	1.949E+00	2.230E+00	2.571E+00
S	1.000E+00	1.104E+00	1.127E+00
Z	1.000E+00	1.000E+00	1.000E+00
GAME	9.815E-01	9.641E-01	9.397E-01
U	3.025E+00	1.516E+00	1.370E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.336E-44	6.661E-29	1.665E-16
HE	5.000E-02	5.000E-02	4.999E-02
HE+	8.674E-60	2.085E-50	1.748E-39
HE++	0.	0.	0.
H	5.003E-08	1.047E-05	7.108E-04
H+	6.346E-20	6.346E-20	1.601E-18
H2	9.500E-01	9.499E-01	9.493E-01

P1 = 5.00E+03 N/50-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.545E+01	7.972E+01	1.614E+02
T	5.095E+00	7.067E+00	9.156E+00
RHC	4.585E+00	1.127E+01	1.752E+01
M	5.359E+00	7.694E+00	1.057E+01
A	2.217E+00	2.575E+00	2.874E+00
S	1.133E+00	1.141E+00	1.167E+00
Z	1.000E+00	1.000E+00	1.000E+00
GAME	9.649E-01	9.393E-01	9.963E-01
U	3.725E+00	1.645E+00	1.492E+00

SPECIES ----- MOLE FRACTIONS -----

E-	5.417E-30	2.959E-19	7.304E-14
HE	5.000E-02	4.997E-02	4.971E-02
HE+	3.059E-51	3.116E-40	1.322E-32
HE++	0.	0.	0.
H	1.083E-05	9.612E-04	1.159E-02
H+	6.346E-20	3.021E-18	7.304E-14
H2	9.499E-01	9.491E-01	9.397E-01

P1 = 5.00E+03 N/50-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.599E+01	1.872E+02	3.261E+02
T	7.917E+00	1.079E+01	1.244E+01
RHO	5.793E+00	1.693E+01	2.475E+01
M	8.831E+00	1.371E+01	1.772E+01
A	2.694E+00	3.090E+00	3.351E+00
S	1.198E+00	1.215E+00	1.246E+00
Z	1.000E+00	1.000E+00	1.000E+00
GAME	9.148E-01	8.634E-01	8.539E-01
U	5.138E+00	1.754E+00	1.567E+00

SPECIES ----- MOLE FRACTIONS -----

E-	7.509E-16	1.384E-11	4.557E-10
HE	4.999E-02	4.978E-02	4.723E-02
HE+	7.528E-37	1.973E-27	3.521E-24
HE++	0.	0.	6.875E-84
H	4.538E-03	4.444E-02	1.105E-01
H+	7.510E-16	1.384E-11	4.557E-10
H2	9.455E-01	9.027E-01	8.422E-01

P1 = 5.00E+03 N/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.876E+01	2.723E+02	4.474E+02
T	9.252E+00	1.229E+01	1.393E+01
RHC	6.263E+00	2.023E+01	2.927E+01
M	1.095E+01	1.753E+01	2.213E+01
A	2.865E+00	3.330E+00	3.610E+00
S	1.229E+00	1.254E+00	1.284E+00
Z	1.000E+00	1.000E+00	1.000E+00
GAME	8.782E-01	8.521E-01	8.529E-01
U	5.877E+00	1.763E+00	1.607E+00

SPECIES ----- MOLE FRACTIONS -----

E-	2.354E-13	3.859E-10	4.866E-09
HE	4.971E-02	4.723E-02	4.525E-02
HE+	1.010E-31	2.559E-24	9.215E-22
HE++	0.	8.282E-97	1.607E-77
H	2.114E-02	1.106E-01	1.899E-01
H+	2.354E-13	3.859E-10	4.866E-09
H2	9.253E-01	8.421E-01	7.647E-01

Table III. - Continued

$$P_1 = 5 \text{ kW/m}^2$$

P1 = 5.00E+03 M/SQ-M, US1= 1.00E+04 M/SEC					P1 = 5.00E+03 M/SQ-M, US1= 1.30E+04 M/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	

E-	8.1234E-12	4.1179E-09	7.3505E+01	3.8542E+02	6.0772E+02	1.2801E+02	8.9540E+02	1.3337E+03	
HE	4.8644E-02	4.5264E-02	1.0375E+01	1.3672E+01	1.5196E+01	1.2957E+01	1.7585E+01	1.9527E+01	
HE+	1.3278E-28	5.2714E-22	0.8905E+00	2.5522E+01	3.4394E+01	8.7875E+00	3.9232E+01	4.8910E+01	
HE++	0.	6.0675E-79	1.3344E+01	4.1997E+01	2.7191E+01	2.2041E+01	3.7941E+01	4.8173E+01	
H-	5.4621E-02	1.4930E-01	3.0234E+00	3.5862E+00	3.8945E+00	3.5022E+00	4.4682E+00	4.9349E+00	
H+	8.1234E-12	4.1179E-09	1.2634E+03	1.2941E+00	1.3322E+03	1.3609E+03	1.4240E+00	1.4743E+00	
H2	8.9674E-01	7.6544E-01	1.0291E+03	1.1045E+03	1.1631E+00	1.1243E+00	1.2979E+00	1.3964E+00	
			4.5524E-01	4.5164E-01	5.5913E-01	8.4199E-01	8.7477E-01	8.9312E-01	
			6.6355E+0C	1.7910E+00	1.6644E+00	8.9467E+00	2.0055E+00	1.9589E+00	

P									
T									
RMC									
H									
A									
S									
Z									
GAME									
U									

P1 = 5.00E+03 N/SQ-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.0000E+01	5.2711E+02	9.0876E+02
T	1.1327E+01	1.4993E+01	1.6574E+01
RMC	7.5301E+01	3.3312E+01	3.9614E+01
M	1.5994E+01	2.6765E+01	3.2875E+01
A	3.1765E+00	3.8592E+00	4.2068E+00
S	1.5927E+00	1.3359E+00	1.3783E+00
Z	1.0530E+00	1.1636E+00	1.2318E+00
GAME	9.4514E-01	9.5845E-01	9.6883E-01
U	7.4397E+00	1.8445E+00	1.7415E+00

SPECIES	MOLE FRACTIONS
E-	9.5276E-11
HE	4.7435E-02
ME+	3.1330E-25
HF++	0.
M	1.0190E-01
M+	9.5276E-11
M2	4.5075E-01

P1 = 5.00E+03 N/SQ-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0817E+02	6.9792E+02	1.0530E+03
T	1.2177E+01	1.6277E+01	1.8033E+01
RMC	9.1957E+01	3.4995E+01	4.4562E+01
M	1.8892E+01	3.2121E+01	3.9175E+01
A	3.3367E+00	4.1521E+00	4.5517E+00
S	1.3326E+00	1.3793E+00	1.4254E+00
Z	1.6367E+00	1.2255E+00	1.3098E+00
GAME	8.4177E-01	8.6441E-01	8.7845E-01
U	9.1799E+00	1.9136E+00	1.9376E+00

SPECIES	MOLE FRACTIONS
E-	5.8820E-10
HE	4.6339E-02
ME+	1.9414E-24
HF++	4.0336E-08
M	1.5842E-01
M+	5.8830E-10
M2	7.9554E-01

P1 = 5.00E+03 N/SQ-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4944E+02	1.1178E+03	1.6547E+03
T	1.3654E+01	1.9940E+01	2.1209E+01
RMC	9.3438E+00	4.2863E+01	5.2417E+01
M	2.5439E+01	4.4217E+01	5.3710E+01
A	3.6746E+00	4.8108E+00	5.3679E+00
S	1.3970E+00	1.4696E+00	1.5243E+00
Z	1.1679E+00	1.3769E+00	1.4903E+00
GAME	8.4431E-01	9.8746E-01	9.1163E-01
U	9.7051E+00	2.1184E+00	2.1061E+00

SPECIES	MOLE FRACTIONS
E-	8.4051E-09
HE	4.2912E-02
ME+	6.7957E-22
HF++	9.3830E-80
M	2.8751E-01
M+	1.2627E-06
M2	6.6967E-01

P1 = 5.00E+03 N/SQ-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7242E+02	1.3611E+03	2.0105E+03
T	1.4408E+01	2.0379E+01	2.3146E+01
RMC	9.8383E+00	4.5706E+01	5.4864E+01
M	2.9087E+01	5.0929E+01	6.2001E+01
A	3.8551E+00	5.1851E+00	5.8675E+00
S	1.4342E+00	1.5158E+00	1.5750E+00
Z	1.2163E+00	1.4612E+00	1.5895E+00
GAME	8.4805E-01	9.0286E-01	9.3576E-01
U	1.0465E+01	2.2546E+00	2.2865E+00

SPECIES	MOLE FRACTIONS
E-	2.3940E-08
HE	4.1108E-02
ME+	7.2148E-21
HF++	9.0312E-75
M	3.5688E-01
M+	2.3902E-09
M2	6.0321E-01

$p_1 = 5 \text{ kN/m}^2$

P1 = 5.00E+03 N/SQ-M, US1= 1.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9695E+02	1.6214E+03	2.4198E+03
T	1.5113E+01	2.1937E+01	2.5531E+01
RHO	1.0268E+01	4.7669E+01	5.6068E+01
M	3.2984E+01	5.8067E+01	7.1077E+01
H	4.0449E+00	5.5937E+00	6.4667E+00
S	1.4723E+00	1.6220E+00	1.6259E+00
Z	1.2692E+00	1.5491E+00	1.6904E+00
GAME	8.5295E-01	9.2187E-01	9.6896E-01
U	1.1215E+01	2.4177E+00	2.5129E+00

P1 = 5.00E+03 N/SQ-M, US1= 1.90E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7962E+02	2.4394E+03	3.4955E+03
T	1.7322E+01	2.8594E+01	3.9636E+01
RHO	1.1132E+01	4.7353E+01	5.1255E+01
M	4.6166E+01	9.1797E+01	7.0481E+02
A	4.6861E+00	7.2478E+00	9.7948E+00
Z	1.5924E+00	1.6961E+00	1.7727E+00
S	1.4518E+00	1.8014E+00	1.9126E+00
GAME	8.7423E-01	1.0200E+00	1.0987E+00
U	1.3429E+01	3.1592E+02	3.7251E+00

P1 = 5.00E+03 N/SQ-M, US1= 1.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9695E+02	1.6214E+03	2.4198E+03
T	1.5113E+01	2.1937E+01	2.5531E+01
RHO	1.0268E+01	4.7669E+01	5.6068E+01
M	3.2984E+01	5.8067E+01	7.1077E+01
H	4.0449E+00	5.5937E+00	6.4667E+00
S	1.4723E+00	1.6220E+00	1.6259E+00
Z	1.2692E+00	1.5491E+00	1.6904E+00
GAME	8.5295E-01	9.2187E-01	9.6896E-01
U	1.1215E+01	2.4177E+00	2.5129E+00

P1 = 5.00E+03 N/SQ-M, US1= 1.90E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7962E+02	2.4394E+03	3.4955E+03
T	1.7322E+01	2.8594E+01	3.9636E+01
RHO	1.1132E+01	4.7353E+01	5.1255E+01
M	4.6166E+01	9.1797E+01	7.0481E+02
A	4.6861E+00	7.2478E+00	9.7948E+00
Z	1.5924E+00	1.6961E+00	1.7727E+00
S	1.4518E+00	1.8014E+00	1.9126E+00
GAME	8.7423E-01	1.0200E+00	1.0987E+00
U	1.3429E+01	3.1592E+02	3.7251E+00

P1 = 5.00E+03 N/SQ-M, US1= 1.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9695E+02	1.6214E+03	2.4198E+03
T	1.5113E+01	2.1937E+01	2.5531E+01
RHO	1.0268E+01	4.7669E+01	5.6068E+01
M	3.2984E+01	5.8067E+01	7.1077E+01
H	4.0449E+00	5.5937E+00	6.4667E+00
S	1.4723E+00	1.6220E+00	1.6259E+00
Z	1.2692E+00	1.5491E+00	1.6904E+00
GAME	8.5295E-01	9.2187E-01	9.6896E-01
U	1.1215E+01	2.4177E+00	2.5129E+00

P1 = 5.00E+03 N/SQ-M, US1= 1.90E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7962E+02	2.4394E+03	3.4955E+03
T	1.7322E+01	2.8594E+01	3.9636E+01
RHO	1.1132E+01	4.7353E+01	5.1255E+01
M	4.6166E+01	9.1797E+01	7.0481E+02
A	4.6861E+00	7.2478E+00	9.7948E+00
Z	1.5924E+00	1.6961E+00	1.7727E+00
S	1.4518E+00	1.8014E+00	1.9126E+00
GAME	8.7423E-01	1.0200E+00	1.0987E+00
U	1.3429E+01	3.1592E+02	3.7251E+00

P1 = 5.00E+03 N/SQ-M, US1= 1.60E+04 M/SEC			
	MOVING SHOCK		

P1 = 5.00E+03 N/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1010E+02	2.6914E+03	4.6279E+03
T	1.1010E+01	3.2344E+01	4.6316E+01
RHO	1.1273E+01	4.3130E+01	4.9199E+01
M	5.1054E+01	9.3331E+01	1.1782E+02
A	4.9323E+00	7.9739E+00	9.7744E+00
S	1.6334E+00	1.7339E+00	1.9134E+00
Z	1.5152E+00	1.9620E+00	1.9432E+00
GAME	8.9424E-01	1.0654E+00	1.0573E+00
U	1.4153E+01	3.5382E+00	4.2614E+00

SPECIES	MOLE FRACTIONS
E-	1.3437E-06
ME	3.2913E-02
ME+	7.1633E-17
ME++	8.6845E-23
M	6.8350E-01
M+	1.3437E-06
M2	2.8359E-01

P1 = 5.00E+03 N/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4196E+02	2.9196E+03	4.9563E+03
T	1.8997E+01	3.6348E+01	5.2421E+01
RHO	1.1334E+01	4.2210E+01	4.7959E+01
M	5.6191E+01	9.9396E+01	1.3196E+02
A	5.2213E+00	8.6890E+00	1.3273E+01
S	1.6747E+00	1.7752E+00	1.8497E+00
Z	1.5999E+00	1.9025E+00	1.9713E+00
GAME	8.9665E-01	1.0915E+00	1.0213E+00
U	1.4964E+01	3.9939E+00	4.6329E+00

SPECIES	MOLE FRACTIONS
E-	2.7677E-06
ME	3.1470E-02
ME+	6.9702E-16
ME++	9.7547E-20
M	7.4119E-01
M+	2.7677E-06
M2	2.2734E-01

P1 = 5.00E+03 N/SQ-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2301E+02	1.8930E+03	2.8632E+03
T	1.5821E+01	2.3754E+01	2.8735E+01
RHO	1.0427E+01	4.8649E+01	5.5782E+01
M	3.7130E+01	6.5613E+01	8.1119E+01
A	4.2454E+00	6.0676E+00	7.2222E+00
S	1.5117E+00	1.6079E+00	1.6767E+00
Z	1.3264E+00	1.6301E+00	1.7863E+00
GAME	8.5888E-01	9.4613E-01	1.0162E+00
U	1.1959E+01	2.6144E+00	2.8140E+00

SPECIES	MOLE FRACTIONS
E-	1.4078E-07
ME	3.7697E-02
ME+	3.9427E-19
ME++	3.0152E-13
M	2.9711E-68
M+	4.9212E-01
M2	1.4078E-07

P1 = 5.00E+03 N/SQ-M, US1 = 1.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5058E+02	2.1689E+03	3.3529E+03
T	1.6546E+01	2.5899E+01	3.3362E+01
RHO	1.0914E+01	4.8565E+01	5.3922E+01
M	4.1524E+01	7.3538E+01	9.2346E+01
A	4.4593E+00	6.8092E+00	8.1617E+00
S	1.5517E+00	1.6529E+00	1.7263E+00
Z	1.3873E+00	1.7243E+00	1.9639E+00
GAME	8.4590E-01	9.7816E-01	1.0713E+00
U	1.2697E+01	2.8552E+00	3.2201E+00

SPECIES	MOLE FRACTIONS
E-	3.0870E-07
ME	3.6043E-02
ME+	2.3767E-18
ME++	2.2047E-65
M	5.5839E-01
M+	3.0870E-07
M2	4.0557E-01

Table III. - Continued

$$P_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/SQ-M, US1 = 2.20E+04 M/SEC				P1 = 5.00E+03 N/SQ-M, US1 = 2.50E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	5.8055E-06	4.4717E-03	3.1581E-02	E-	8.2272E-05	2.6959E-02	7.8427E-02
HE	3.0129E-02	2.5922E-02	2.4973E-02	HE	2.6966E-02	2.5075E-02	2.3606E-02
HE+	2.2509E-15	7.3299E-08	1.0438E-05	HE+	1.3338E-12	5.5080E-06	1.0132E-04
ME+	4.0483E-54	3.2755E-26	2.2213E-18	ME+	6.3673E-44	1.7124E-19	7.7358E-15
M	7.9484E-01	9.4969E-01	9.0593E-01	M	9.2113E-01	9.1593E-01	9.1655E-01
M+	5.8055E-06	4.4716E-03	3.1571E-02	M+	8.2272E-05	2.6953E-02	7.8325E-02
M2	1.7562E-01	1.5641E-02	5.9362E-03	M2	5.1767E-02	5.0794E-03	2.9934E-03
P	3.7513E+02	3.1279E+03	5.4452E+03	P	4.8077E+02	3.6222E+03	6.5374E+03
T	1.9985E+01	4.1070E+01	5.7646E+01	T	2.4577E+01	5.4183E+01	7.0792E+01
RHO	1.1309E+01	3.9484E+01	4.7199E+01	RHO	1.6553E+01	3.3532E+01	4.4619E+01
M	6.1571E+01	1.0814E+02	1.4422E+02	M	7.9125E+01	1.3734E+02	1.8446E+02
A	5.5024E+00	9.2553E+00	1.0724E+01	A	6.7916E+00	1.0383E+01	1.1943E+01
S	1.7160E+00	1.8099E+00	1.8821E+00	S	1.8542E+00	1.5033E+00	1.9747E+00
Z	1.6596E+00	1.9299E+00	2.0013E+00	Z	1.8542E+00	1.5033E+00	2.1091E+00
GAME	9.1271E-01	1.0813E+00	9.9687E-01	GAME	1.0122E+00	9.9810E-01	9.6487E-01
U	1.5573E+01	4.4569E+00	4.9009E+00	U	1.7574E+01	5.5244E+00	5.5423E+00

P1 = 5.00E+03 N/SQ-M, US1 = 2.31E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0947E+02	3.3204E+03	5.4870E+03
T	2.116E+01	4.5742E+01	6.2303E+01
RHO	1.1183E+01	3.7241E+01	4.6443E+01
M	6.7191E+01	1.1753E+02	1.5759E+02
A	5.8499E+00	9.6845E+00	1.1153E+01
S	1.7548E+00	1.8419E+00	1.9135E+00
Z	1.7297E+00	1.9492E+00	2.0348E+00
GAME	9.3464E-01	1.0519E+00	1.8116E-01
U	1.6263E+01	4.8814E+00	5.1573E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	1.2759E-C5
HE	2.8907E-02
HE+	1.4745E-14
HE++	4.3842E-51
H	8.4367E-01
M+	1.2758E-05
M2	1.2740E-C1
	9.9371E-03
	4.5947E-03
	9.9371E-03
	4.6267E-02
	2.4546E-02
	2.6979E-05
	6.7291E-17
	9.7913E-01
	4.6242E-02
	4.5947E-03

P1 = 5.00E+03 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1704E+02	3.7007E+03	4.6251E+03
T	2.7197E+01	5.7794E+01	7.3103E+01
RHO	1.0018E+01	3.1696E+01	4.2065E+01
M	9.5417E+01	1.4761E+02	1.9769E+02
A	7.4238E+00	1.0702E+01	1.2306E+01
S	1.8714E+00	1.9339E+00	2.0055E+00
Z	1.8976E+00	2.0202E+00	2.1486E+00
GAME	1.0475E+00	9.8090E-01	9.6406E-01
U	1.0175E+01	5.7416E+00	5.6798E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	2.5434E-04
HE	2.6349E-02
HE+	2.1034E-11
HE++	1.5799E-39
H	9.4528E-01
M+	2.5434E-04
M2	2.7861E-02
	3.9936E-03
	3.8627E-C2
	2.4737E-02
	1.3059E-05
	3.6922E-18
	4.2049E-14
	7.8444E-01
	9.4734E-02
	2.4546E-03

P1 = 5.00E+03 N/SQ-M, US1 = 2.43E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4479E+02	3.4805E+03	6.2529E+03
T	2.2439E+01	5.0158E+01	6.6429E+01
RHO	1.0934E+01	3.5302E+01	4.5454E+01
M	7.3045E+01	1.2726E+02	1.7103E+02
A	6.2644E+00	1.0048E+01	1.1559E+01
S	1.7948E+00	1.9729E+00	1.9441E+00
Z	1.7962E+00	1.9701E+00	2.3709E+00
GAME	9.6429E-01	1.0219E+00	9.7126E-01
U	1.6933E+01	5.2471E+00	5.3645E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	3.3451E-05
HE	2.7837E-02
HE+	1.1975E-13
HE++	1.0300E-47
H	8.8642E-01
M+	3.0451E-05
M2	8.5681E-02
	6.8916E-03
	1.7092E-C2
	2.5177E-02
	1.8437E-06
	3.6273E-21
	9.3354E-01
	1.7091E-02
	6.8916E-03
	6.2052E-02
	2.4088E-02
	5.6296E-05
	9.4455E-16
	8.4813E-01
	6.1995E-02
	3.6783E-03

P1 = 5.00E+03 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5355E+02	3.7472E+03	4.6368E+03
T	3.0574E+01	6.1031E+01	7.6152E+01
RHO	9.4574E+00	2.9922E+01	3.9837E+01
M	9.1914E+01	1.5812E+02	2.1382E+02
A	9.6614E+00	1.1035E+01	1.2236E+01
S	1.9051E+00	1.9643E+00	2.0366E+00
Z	1.9245E+00	2.0491E+00	2.1594E+00
GAME	1.1644E+00	9.6888E-01	9.5768E-01
U	1.9744E+01	5.9964E+00	5.7977E+00

SPECIES MOLE FRACTIONS

SPECIES	MOLE FRACTIONS
E-	8.2947E-04
HE	2.5581E-02
HE+	3.7872E-10
HE++	5.6726E-35
H	9.5826E-01
M+	8.2947E-04
M2	1.4165E-02
	3.3763E-03
	5.1436E-02
	2.4375E-02
	2.5987E-05
	4.2373E-17
	8.6969E-01
	5.1436E-02
	1.1111E-02
	2.6214E-03
	1.1135E-01
	2.2759E-02
	2.4223E-04
	1.7136E-13
	7.5248E-01

Table III. - Continued

$$P_1 = 5 \text{ kN m}^2$$

P1 = 5.00E+03 N/SQ-M, US1 = 2.00E+04 M/SEC					P1 = 5.00E+03 N/SQ-M, US1 = 3.00E+04 M/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	

E-	2.3553E-C3	6.5266E-02	5.9106E+02	3.7923E+03	6.6622E+03	7.6024E+02	4.4591E+03	7.4089E+03	
HE	2.5777E-02	2.3985E-C2	3.4305E+01	6.3995E+01	7.8862E+01	4.7747E+01	7.5377E+01	9.1172E+01	
HE+	4.8655E-09	4.6452E-05	8.0817E+03	2.8480E+01	3.7890E+01	7.5569E+00	2.6524E+01	3.4818E+01	
H	5.6353E-31	3.3354E-16	9.8337E+01	1.6895E+02	2.2422E+02	1.2812E+02	2.1799E+02	2.8535E+02	
H+	9.6187E-31	8.4299E-01	8.5688E+00	1.1309E+01	1.2973E+01	5.6499E+00	1.2626E+01	1.4464E+01	
H2	2.7553E-C3	6.9220E-C2	1.5349E+09	1.9934E+00	2.0667E+00	2.0360E+00	2.0999E+00	2.1791E+00	
	7.6460E-03	2.4909E-03	1.5397E+30	2.0806E+00	2.2315E+00	1.9993E+00	2.2303E+00	2.4202E+00	
			1.0992E+00	9.6349E-01	9.5592E-01	9.7457E-01	9.4842E-01	9.5762E-01	
			1.9299E+01	6.3164E+00	5.9085E+00	2.1729E+01	6.5134E+00	6.4343E+00	

SPECIES									

E-	2.6413E-02	1.2687E-01	2.6413E-02	2.6413E-02	1.2687E-01	2.6413E-02	1.2687E-01	1.9516E-01	
HE	2.5007E-02	2.2155E-32	2.5007E-02	2.5007E-02	2.2155E-32	2.5007E-02	2.2155E-32	1.9546E-02	
HE+	1.8655E-06	2.6637E-04	1.8655E-06	1.8655E-06	2.6637E-04	1.8655E-06	2.6637E-04	1.1135E-23	
H	1.1411E-21	1.8040E-17	1.1411E-21	1.1411E-21	1.8040E-17	1.1411E-21	1.8040E-17	4.5234E-11	
H+	9.2315E-01	7.2282E-01	9.2315E-01	9.2315E-01	7.2282E-01	9.2315E-01	7.2282E-01	5.8924E-01	
H2	2.6431E-32	1.2660E-01	2.6431E-32	2.6431E-32	1.2660E-01	2.6431E-32	1.2660E-01	1.9405E-01	
	1.7802E-03	1.2907E-03	1.7802E-03	1.7802E-03	1.2907E-03	1.7802E-03	1.2907E-03	8.9131E-04	

PI = 5.00E+03 N/SQ-M, USI = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.5754E+02	5.0339E+03	8.5189E+03
T	5.2984E+01	8.1041E+01	9.6551E+01
RHC	7.9172E+00	2.6813E+01	3.4928E+01
M	1.4449E+02	2.4616E+02	3.2104E+02
A	1.6133E+01	1.3149E+01	1.5317E+01
S	2.0805E+00	2.1451E+00	2.2233E+00
Z	2.4433E+00	2.3146E+00	2.5260E+00
GAME	9.4736E-01	9.4916E-01	9.6192E-01
U	2.3069E+01	6.7092E+00	6.7637E+00

SPECIES	WILE FRACTIONS
E-	4.7331E-02
ME	1.3374E-01
ME+	2.4450E-02
M	8.2116E-06
M+	2.4094E-19
M-	7.7961E-01
M2	4.7323E-02
M2	1.2099E-03
M2	2.2870E-01
M2	1.7991E-02
M2	1.8127E-03
M2	3.0284E-10
M2	5.2394E-01
M2	2.2688E-01
M2	6.6653E-04

PI = 5.03E+03 N/SQ-M, USI = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.6215E+02	5.7084E+03	9.6104E+03
T	5.7554E+01	9.6706E+01	1.7314E+02
RHC	7.5684E+00	2.7336E+01	3.5334E+02
M	1.6193E+02	2.7631E+02	3.5973E+02
A	1.0617E+01	1.4101E+01	1.6224E+01
S	2.1244E+00	2.1976E+00	2.2949E+00
Z	2.0577E+00	2.4089E+00	2.6372E+00
GAME	9.3394E-01	9.5199E-01	9.6773E-01
U	2.4450E+01	7.1255E+00	7.1197E+00

SPECIES	WILE FRACTIONS
E-	7.1394E-02
ME	2.3809E-02
ME+	4.4198E-05
M	1.7129E-11
M+	9.3235E-17
M-	5.9633E-01
M2	7.1359E-02
M2	1.9037E-01
M2	2.5833E-01
M2	4.9731E-04
M2	7.6232E-04

PI = 5.00E+03 N/SQ-M, USI = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.3007E+02	3.9829E+03	6.7598E+03
T	3.8082E+01	6.6872E+01	8.1558E+01
RHC	9.4770E+00	2.7460E+01	3.6426E+01
M	1.0563E+02	1.8028E+02	2.3918E+02
A	9.8966E+00	1.1620E+01	1.3314E+01
S	1.9626E+00	2.0215E+00	2.0961E+00
Z	1.5519E+00	2.1145E+00	2.2754E+00
GAME	1.0649E+00	9.5485E-01	9.5516E-01
U	1.9864E+01	6.1271E+00	6.0226E+00

SPECIES	WILE FRACTIONS
E-	5.5250E-03
ME	2.5618E-02
ME+	3.9156E-05
M	1.0423E-27
M+	9.5872E-01
M-	5.5250E-03
M2	4.6148E-03
M2	7.5875E-02
M2	2.3569E-02
M2	7.7031E-05
M2	2.0263E-15
M2	1.8771E-12
M2	6.8824E-01
M2	1.4395E-01
M2	1.4169E-03

PI = 5.00E+03 N/SQ-M, USI = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.7126E+02	4.0272E+02	6.5547E+03
T	4.1521E+01	6.9714E+01	8.4355E+01
RHC	8.2083E+00	2.6859E+01	3.5513E+01
M	1.1294E+02	1.6222E+02	2.5331E+02
A	9.1674E+00	1.1943E+01	1.3678E+01
S	1.9994E+00	2.2495E+00	2.1245E+00
Z	1.9644E+00	2.1509E+00	2.3216E+00
GAME	1.0277E+00	9.5127E-01	9.5529E-01
U	2.0455E+01	6.0247E+00	6.1492E+00

SPECIES	WILE FRACTIONS
E-	1.6691E-02
ME	2.5447E-02
ME+	1.9719E-07
M	3.4907E-25
M+	9.5009E-01
M-	1.0680E-02
M2	3.1117E-03
M2	9.5125E-02
M2	2.3125E-02
M2	1.0313E-04
M2	1.0223E-14
M2	7.9494E-01
M2	9.5003E-02
M2	1.6041E-01
M2	1.2954E-03

Table III. - Continued

$$P_1 = 5 \text{ KN/m}^2$$

P ₁ = 5.00E+03 N/5Q-M, US1 = 3.82E+04 M/SEC				P ₁ = 5.00E+03 N/5Q-M, US1 = 4.40E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
P	1.0739E+03	5.4692E+03	1.0862E+04	P	1.4476E+03	9.0995E+03	1.5330E+04
T	6.1672E+01	9.2406E+01	1.1005E+02	T	7.2806E+01	1.1005E+02	1.3359E+02
RHO	8.0710E+00	2.7935E+01	3.5859E+01	RHO	8.4081E+00	2.9393E+01	3.6997E+01
M	1.9334E+02	3.0846E+02	4.0132E+02	M	2.4174E+02	4.1591E+02	5.4331E+02
A	1.1107E+01	1.4879E+01	1.7185E+01	A	1.2629E+01	1.7367E+01	2.0472E+01
S	2.1677E+00	2.2432E+00	2.3367E+00	S	2.2935E+00	2.3962E+00	2.4915E+00
Z	2.1572E+00	2.5057E+00	2.7524E+00	Z	2.3647E+00	2.8130E+00	3.1102E+00
GAME	9.2761E-01	9.5611E-01	9.7503E-01	GAME	9.2632E-01	9.7429E-01	1.0097E+00
U	2.5855E+01	7.4661E+00	7.5095E+00	U	3.0716E+01	8.6092E+01	8.8930E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	9.0759E-02	2.2237E-01	2.9192E-01	E-	1.7572E-01	3.0796E-01	3.7316E-01
HE	2.3123E-02	1.8485E-02	1.4265E-02	HE	2.0818E-02	1.3564E-02	8.3953E-03
HE+	5.5543E-05	1.4653E-03	3.9311E-03	HE+	3.2678E-04	4.2107E-03	7.6804E-03
HL+	2.5122E-16	1.1161E-13	9.0416E-09	HE++	1.6860E-13	9.8556E-09	4.1361E-07
H	7.8271E-01	5.3619E-01	4.5157E-01	M	6.2740E-01	3.7206E-01	2.4515E-01
H+	5.6642E-02	2.2090E-01	2.8930E-01	H+	1.7539E-01	3.0285E-01	3.6548E-01
H2	6.8895E-04	5.3126E-04	3.6743E-04	H2	3.5000E-04	2.6421E-04	1.2869E-04

P1 = 5.00E+03 N/SQ-M, US1 = 4.60E+04 M/SEC
 MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
 P 1.5845E+03 1.002E+04 1.7031E+04
 T 7.6311E+01 1.1627E+02 1.4289E+02
 RMO 8.5055E+03 2.9656E+01 3.6911E+01
 H 2.6421E+02 4.5496E+02 5.9660E+02
 A 1.2359E+01 1.9239E+01 2.1743E+01
 S 2.3357E+00 2.4325E+00 2.5427E+00
 Z 2.4612E+00 2.9180E+00 3.2291E+00
 GAME 9.2865E-01 9.8262E-01 1.0246E+00
 U 3.1923E+01 9.0380E+00 9.4451E+00

SPECIES MOLE FRACTIONS
 E- 2.0149E-01 3.3194E-01 3.9620E-01
 HE 1.9970E-02 1.1776E-02 6.7814E-03
 HE+ 5.1134E-04 5.3593E-03 9.7015E-03
 HE++ 8.9179E-13 3.3485E-04 1.3118E-04
 H 5.7676E-01 3.2416E-01 2.0073E-01
 H+ 2.0098E-01 3.2658E-01 3.8756E-01
 H2 2.9169E-04 1.9654E-04 9.4203E-05

P1 = 5.00E+03 N/SQ-M, US1 = 4.80E+04 M/SEC
 MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
 P 1.7274E+03 1.1054E+04 1.9822E+04
 T 7.9784E+01 1.2279E+02 1.5319E+02
 RMC 8.5892E+00 2.9774E+01 3.6756E+01
 H 2.9767E+02 4.9571E+02 6.5280E+02
 A 1.3688E+01 1.9195E+01 2.3106E+01
 S 2.3775E+00 2.4787E+00 2.5926E+00
 Z 2.5202E+00 3.0234E+00 3.3428E+00
 GAME 9.3169E-01 9.9249E-01 1.0425E+00
 U 3.2936E+01 9.4949E+00 1.0033E+01

SPECIES MOLE FRACTIONS
 E- 2.2600E-01 3.5517E-01 4.1672E-01
 HE 1.9072E-02 1.0325E-02 5.4545E-03
 HE+ 7.647E-04 6.5129E-03 9.4908E-03
 HE++ 4.0386E-12 1.0372E-07 3.9470E-06
 H 5.2750E-01 2.7950E-01 1.6107E-01
 H+ 2.2584E-01 3.4865E-01 4.0721E-01
 H2 2.2615E-04 1.4300E-04 5.2708E-05

REPRODUCIBILITY OF THE
 ORIGINAL PAGE IS POOR

P1 = 5.00E+03 N/SQ-M, US1 = 4.00E+04 M/SEC
 MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
 P 1.9218E+03 7.2966E+03 1.2241E+04
 T 6.9647E+01 9.9177E+01 1.1736E+02
 RMC 8.1852E+03 3.6313E+01 4.5928E+02
 H 1.9940E+02 3.4252E+02 4.6208E+02
 A 1.1608E+01 1.5682E+01 1.8208E+01
 S 2.2094E+00 2.7926E+00 4.394E+00
 Z 2.2221E+00 2.6006E+00 2.8707E+00
 GAME 9.2511E-01 9.9409E-01 1.0246E+00
 U 2.7260E+01 7.9336E+00 7.9336E+00

SPECIES MOLE FRACTIONS
 E- 1.2301E-01 2.5210E-01 3.2098E-01
 HE 2.2301E-02 1.6973E-02 1.2233E-02
 HE+ 1.0321E-04 2.2156E-03 5.1944E-03
 HE++ 3.5828E-15 5.8501E-10 3.330E-08
 H 7.3104E-01 4.7814E-01 3.4554E-01
 H+ 1.7273E-01 2.4998E-01 3.1579E-01
 H2 5.444E-04 4.5647E-04 2.661E-04

P1 = 5.00E+03 N/SQ-M, US1 = 4.20E+04 M/SEC
 MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
 P 1.3167E+03 8.1764E+03 1.3720E+04
 T 6.9232E+01 1.0405E+02 1.2514E+02
 RMC 8.2996E+00 2.9011E+01 3.6692E+01
 H 2.2271E+02 3.7933E+02 4.9332E+02
 A 1.2114E+01 1.6511E+01 1.9297E+01
 S 2.2514E+00 2.3962E+00 2.4401E+00
 Z 2.2915E+00 2.7089E+00 2.9501E+00
 GAME 9.2503E-01 9.6723E-01 9.9423E-01
 U 2.9687E+01 9.1993E+00 9.3854E+00

SPECIES MOLE FRACTIONS
 E- 1.4946E-01 2.8047E-01 3.4934E-01
 HE 2.1623E-02 1.5317E-02 1.0244E-02
 HE+ 1.9719E-04 3.1415E-03 6.4796E-03
 HE++ 2.6071E-14 2.5812E-09 1.2252E-07
 H 6.7931E-01 4.2343E-01 2.6350E-01
 H+ 1.6927E-01 2.7733E-01 3.4156E-01
 H2 4.3528E-04 3.4946E-04 1.8836E-04

Table III. - Continued

$$P_1 = 5 \text{ kW/m}^2$$

P1 = 5.00E+03 N/SQ-M, US1 = 5.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8763E+03	1.2069E+04	2.0732E+04
T	8.3255E+01	1.2960E+02	1.6511E+02
RHO	8.6596E+00	2.9792E+01	3.6372E+01
M	3.1213E+02	5.3805E+02	7.1313E+02
A	1.4236E+01	2.0166E+01	2.4612E+01
S	2.4200E+00	2.5235E+00	2.6430E+00
Z	2.6025E+00	3.1260E+00	3.4521E+00
GAME	9.3531E-01	1.0039E+00	1.0628E+00
U	3.4345E+01	9.9731E+00	1.0739E+01

P1 = 5.00E+03 N/SQ-M, US1 = 5.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3575E+03	1.5134E+04	2.6991E+04
T	9.3940E+01	1.5339E+02	2.1243E+02
RHO	8.7775E+00	2.8809E+01	3.4303E+01
M	3.9142E+02	6.7319E+02	9.1569E+02
A	1.5966E+01	2.3440E+01	2.9704E+01
S	2.5463E+00	2.6561E+00	2.7850E+00
Z	2.8591E+00	3.4180E+00	3.7045E+00
GAME	9.4903E-01	1.0480E+00	1.1213E+00
U	3.8534E+01	1.1739E+01	1.3757E+01

SPECIES ----- MOLE FRACTIONS -----			
E-	3.1835E-01	4.2953E-01	4.7361E-01
HE	1.4734E-02	4.6841E-03	2.2777E-01
ME+	2.7537E-03	9.9391E-03	1.3931E-02
ME++	6.0411E-13	4.3071E-06	2.8811E-06
H	3.4907E-31	1.3624E-01	5.0743E-02
M+	3.1530E-01	4.1959E-01	4.6210E-01
M2	9.7630E-05	3.0191E-05	4.4055E-06

P1 = 5.00E+03 N/SQ-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0310E+03	1.3082E+04	2.2723E+04
T	8.6754E+01	1.3692E+02	1.7865E+02
RHO	8.7143E+00	2.9601E+01	3.5831E+01
M	3.3758E+02	5.9171E+02	7.7664E+02
A	1.4797E+01	5.1201E+01	2.6219E+01
S	2.4621E+00	2.5686E+00	2.6916E+00
Z	2.8845E+00	3.2278E+00	3.5498E+00
GAME	9.3941E-01	1.0170E+00	1.0340E+00
U	3.5748E+01	1.0521E+01	1.1487E+01

SPECIES ----- MOLE FRACTIONS -----

E-	2.7429E-01	3.9594E-01	4.5069E-01
HE	1.7074E-02	6.9649E-03	3.5154E-03
ME+	1.5374E-03	8.5248E-03	1.0535E-02
ME++	5.9547E-11	7.9179E-07	3.4835E-05
H	4.3421E-01	2.0108E-01	9.5113E-02
M+	2.7273E-01	3.8742E-01	4.4009E-01
M2	1.4335E-04	7.0410E-05	1.7040E-05

P1 = 5.00E+03 N/SQ-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0191E+03	1.4104E+04	2.4824E+04
T	9.0304E+01	1.4481E+02	1.9458E+02
RHO	9.7537E+00	2.9289E+01	3.5088E+01
M	3.6401E+02	6.2686E+02	8.4436E+02
A	1.5373E+01	2.2290E+01	2.7959E+01
S	2.5043E+00	2.6127E+00	2.7399E+00
Z	2.7722E+00	3.3255E+00	3.6359E+00
GAME	9.4399E-01	1.0317E+00	1.1049E+00
U	3.7145E+01	1.1092E+01	1.2355E+01

SPECIES ----- MOLE FRACTIONS -----

E-	2.9669E-01	4.1367E-01	4.6370E-01
HE	1.5951E-02	5.7218E-03	2.9255E-03
ME+	2.0850E-03	9.3114E-03	1.0823E-02
ME++	1.9530E-10	2.0399E-06	1.0319E-04
H	3.9056E-01	1.6689E-01	6.9879E-02
M+	2.9460E-01	4.0435E-01	4.5267E-01
M2	1.1270E-04	4.7013E-05	8.7676E-06

P1 = 5.00E+03 N/SQ-M, US1 = 5.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5291E+03	1.6593E+04	2.9257E+04
T	9.7687E+01	1.6269E+02	2.3325E+02
RHO	8.7851E+00	2.9246E+01	3.3347E+01
M	4.1984E+02	7.2084E+02	9.9157E+02
A	1.6575E+01	2.4634E+01	3.1494E+01
S	2.5822E+00	2.6977E+00	2.8707E+00
Z	2.9465E+00	3.5021E+00	3.7647E+00
GAME	9.5480E-01	1.2651E+00	1.1306E+00
U	3.9915E+01	1.2404E+01	1.4745E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.3835E-01	4.4321E-01	4.9149E-01
HE	1.3472E-02	3.8488E-03	1.7824E-03
ME+	1.5448E-03	1.0410E-02	1.0735E-02
ME++	1.7862E-09	1.2331E-05	7.7407E-04
H	3.5942E-01	1.0972E-01	3.4365E-02
M+	3.3480E-01	4.3277E-01	4.6491E-01
M2	6.7249E-05	1.9903E-05	2.1037E-04

P1 = 5.00E+03 N/SQ-M, US1 = 6.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.7364E+03	1.7039E+04	3.1527E+04
T	1.0158E+02	1.7331E+02	2.5519E+02
RHO	8.7778E+00	2.7522E+01	3.2491E+01
M	4.4919E+02	7.6949E+02	1.0494E+03
A	1.7215E+01	2.5893E+01	3.3135E+01
S	2.6301E+00	2.7399E+00	2.9724E+00
Z	3.0355E+00	3.5785E+00	3.8222E+00
GAME	9.6131E-01	1.2825E+00	1.1314E+00
U	4.1287E+01	1.3162E+01	1.5267E+01

SPECIES ----- MOLE FRACTIONS -----

E-	3.5754E-01	4.5599E-01	4.9714E-01
HE	1.2026E-02	3.1642E-03	1.3454E-03
ME+	4.4497E-03	1.0779E-02	1.0027E-02
ME++	4.9929E-09	2.9590E-05	1.7779E-03
H	2.7285E-01	8.6674E-02	2.6150E-02
M+	3.5309E-01	4.4425E-01	4.7354E-01
M2	5.0812E-05	1.1149E-05	1.0557E-06

Table III. - Continued

$$P_1 = 5 \text{ kN/m}^2$$

P1 = 5.00E+03 N/SQ-M, US1= 6.20E+04 M/SEC				P1 = 5.00E+03 N/SQ-M, US1= 6.80E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	3.7561E-01	4.6494E-01	4.9148E-01	E-	4.2285E-01	4.8427E-01	5.0010E-01
HE	1.0569E-02	2.6145E-03	9.5374E-04	HE	6.2537E-03	1.4671E-03	1.0818E-04
ME+	5.4424E-03	1.1336E-02	9.7241E-03	ME+	8.5452E-03	1.1037E-02	3.6644E-03
ME++	1.3393E-08	6.9404E-05	3.3611E-03	ME++	2.1734E-07	7.2066E-04	8.9534E-03
H	2.3817E-01	6.7578E-02	1.9440E-02	H	1.4804E-01	3.0716E-02	9.5587E-03
M+	3.7017E-01	4.5376E-01	4.7604E-01	M+	4.1430E-01	4.7179E-01	4.7852E-01
M2	3.7694E-05	6.4591E-06	5.6007E-07	M2	1.3282E-05	1.1236E-06	9.7161E-08
P	2.8985E+03	1.7946E+04	3.3811E+04	P	3.4649E+03	2.0328E+04	4.0563E+04
T	1.0567E+02	1.8430E+02	2.7788E+02	T	1.1964E+02	2.2408E+02	3.5534E+02
RHO	8.7535E+00	2.6719E+01	3.1730E+01	RHC	8.5724E+00	2.3990E+01	2.9265E+01
M	4.7953E+02	8.1916E+02	1.1500E+03	M	5.7631E+02	9.7336E+02	1.4088E+03
A	1.7880E+01	2.7113E+01	3.4715E+01	A	2.0104E+01	3.0972E+01	4.0066E+01
S	2.6719E+00	2.7783E+00	2.9111E+00	S	2.7934E+00	2.8882E+00	3.0205E+00
Z	3.1229E+00	3.6444E+00	3.9347E+00	Z	3.3786E+00	3.7810E+00	3.9208E+00
GAME	9.6884E-01	1.1002E+00	1.1309E+00	GAME	1.0004E+00	1.1322E+00	1.1582E+00
U	4.2648E+01	1.3964E+01	1.6257E+01	U	4.6647E+01	1.6662E+01	1.9327E+01

P1 = 5.00E+03 N/50-M, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6660E+03	2.0977E+04	4.2692E+04
T	1.2513E+02	2.3913E+02	3.8410E+02
RHO	8.4721E+00	2.3619E+01	2.8399E+01
H	6.1045E+02	1.0262E+03	1.4996E+03
A	2.0956E+01	3.2128E+01	4.1930E+01
S	2.8328E+00	2.9233E+00	3.0537E+00
Z	3.4582E+00	3.8108E+00	3.9129E+00
GAME	1.0149E+00	1.1327E+00	1.1681E+00
U	4.7944E+01	1.7637E+01	2.0362E+01

SPECIES	MOLE FRACTIONS
E-	4.3613E-01
HE	5.0036E-03
HE+	5.4544E-03
HE++	5.3350E-07
H	1.2274E-01
H+	4.2667E-01
H2	8.7971E-06
	4.8030E-01
	1.1719E-03
	1.0556E-02
	1.3923E-03
	3.615E-02
	4.7496E-01
	6.2559E-07
	5.0165E-01
	1.0449E-04
	2.5961E-03
	1.0076E-02
	6.651E-03
	4.7590E-01
	5.6926E-08

P1 = 5.00E+03 N/50-M, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0763E+03	1.8808E+04	3.6137E+04
T	1.0966E+02	1.9667E+02	3.0262E+02
RHO	8.7171E+00	2.5848E+01	3.0918E+01
H	5.1385E+02	8.6978E+02	1.2341E+03
A	1.8574E+01	2.8488E+01	3.6432E+01
S	2.7122E+00	2.8164E+00	2.9498E+00
Z	3.2092E+00	3.6998E+00	3.8624E+00
GAME	9.7761E-01	1.1153E+00	1.1356E+00
U	4.4002E+01	1.4835E+01	1.7292E+01

SPECIES	MOLE FRACTIONS
E-	3.9241E-01
HE	4.7295E-01
HE+	2.1645E-03
HE++	1.1191E-02
H	6.9258E-03
H+	5.4119E-03
H2	1.4542E-02
	4.7738E-01
	3.0130E-07
	4.9513E-01
	6.0763E-04
	6.9258E-03
	5.4119E-03
	1.4542E-02
	4.7738E-01
	3.0130E-07

P1 = 5.00E+03 N/50-M, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2681E+03	1.9586E+04	3.8331E+04
T	1.1463E+02	2.1001E+02	3.2786E+02
RHO	9.6501E+00	2.4901E+01	3.0102E+01
H	5.4310E+02	9.2108E+02	1.3191E+03
A	1.9322E+01	2.9766E+01	3.9199E+01
S	2.7534E+00	2.8533E+00	2.9856E+00
Z	3.2958E+00	3.7451E+00	3.9839E+00
GAME	9.8013E-01	1.1265E+00	1.1459E+00
U	4.5330E+01	1.5736E+01	1.9260E+01

SPECIES	MOLE FRACTIONS
E-	4.0835E-01
HE	4.7933E-01
HE+	1.7875E-03
HE++	1.1213E-02
H	7.5438E-03
H+	3.4979E-04
H2	3.9909E-02
	1.1130E-12
	4.6741E-01
	4.7807E-01
	1.7020E-07
	4.9793E-01
	3.4031E-04
	5.1616E-03
	7.3516E-03
	1.1130E-12
	4.6741E-01
	4.7807E-01
	1.7020E-07

Table III. - Continued

$$P_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/50-M, US1 = 4.00E+03 M/SEC				P1 = 1.00E+04 N/50-M, US1 = 7.00E+03 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	6.1336E-67	2.5778E-48	3.0745E-32	E-	6.7470E-20	4.1304E-14	1.7527E-11
HE	5.0020E-32	5.0020E-02	5.0000E-02	HE	4.9993E-02	4.9791E-02	4.9986E-02
HE+	3.9514E-72	3.4991E-61	9.0J50E-52	HE+	1.7903E-44	5.1779E-33	6.0191E-27
HE++	0.	0.	0.	HE++	0.	0.	0.
H	9.7437E-12	1.2973E-09	3.0441E-36	H	2.8382E-04	8.7783E-03	4.0552E-02
H+	6.3460E-20	6.3460E-20	6.3460E-20	H+	1.3092E-19	4.1304E-14	1.7527E-11
H2	9.5000E-01	9.5000E-01	9.5000E-01	H2	9.4972E-01	9.4144E-01	9.1044E-01
P	1.1124E+31	2.3087E+01	5.6542E+01	P	3.4832E+01	1.2451E+02	2.3524E+02
T	2.8248E+00	3.5080E+00	4.9522E+00	T	6.4739E+00	9.1022E+00	1.1157E+01
RHO	3.9379E+00	6.5823E+00	1.1417E+01	RHO	5.3796E+00	1.3620E+01	2.0657E+01
M	2.8881E+00	3.6131E+00	5.1957E+00	M	6.9671E+00	1.0425E+01	1.3952E+01
A	1.6757E+00	1.9601E+00	2.1883E+00	A	2.4764E+00	2.9740E+00	3.1519E+00
S	1.0659E+00	1.6680E+00	1.0847E+03	S	1.1729E+00	1.1853E+00	1.2144E+00
Z	1.0003E+00	1.0000E+00	1.0000E+00	Z	1.0001E+00	1.0044E+00	1.0207E+00
GAME	9.9407E-01	9.8638E-01	9.6693E-01	GAME	9.4743E-01	9.0349E-01	6.7213E-01
U	2.3176E+00	1.3854E+00	1.2214E+00	U	4.4259E+00	1.7473E+00	1.5599E+00

P1 = 1.00E+04 N/SQ-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7523E+01	4.6584E+01	1.3221E+02
T	3.8723E+03	5.1619E+00	7.1391E+00
RMC	4.5267E+00	9.0230E+00	1.4517E+01
H	3.9996E+00	5.4333E+00	7.6504E+00
A	1.6491E+00	2.2310E+00	2.5747E+00
S	1.1027E+00	1.1080E+00	1.1325E+00
Z	1.0030E+00	1.0030E+00	1.0003E+00
GAME	9.8155E-01	9.6425E-01	9.4147E-01
U	3.0275E+00	1.5165E+00	1.3717E+00

SPECIES	MOLE FRACTIONS
E-	8.2597E-45
HE	5.0000E-02
HE+	1.2200E-59
HE++	0.
H	3.5381E-08
H+	6.3460E-20
H2	9.5000E-01

P1 = 1.00E+04 N/SQ-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5430E+01	7.9676E+01	1.6168E+02
T	5.0559E+03	7.6724E+00	9.2279E+00
RMC	4.9850E+00	1.1263E+01	1.7443E+01
H	5.3535E+00	7.6932E+00	1.0596E+01
A	2.2170E+00	2.5793E+00	2.8944E+00
S	1.1390E+00	1.1473E+00	1.1742E+00
Z	1.0030E+00	1.0003E+00	1.0044E+00
GAME	5.6544E-01	9.4034E-01	9.0193E-01
U	3.7253E+00	1.6776E+00	1.4920E+00

SPECIES	MOLE FRACTIONS
E-	1.9165E-30
HE	5.0030E-02
HE+	4.3239E-51
HE++	0.
H	7.6975E-08
H+	6.3460E-20
H2	9.4999E-01

P1 = 1.00E+04 N/SQ-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5861E+01	1.8524E+02	3.2632E+02
T	7.9429E+03	1.0967E+01	1.2806E+01
RMC	5.7643E+00	1.6557E+01	2.4244E+01
H	5.8697E+00	1.3677E+01	1.7789E+01
A	2.7067E+00	3.1226E+00	3.4028E+00
S	1.2054E+00	1.2232E+00	1.2550E+00
Z	1.0017E+00	1.0202E+00	1.0511E+00
GAME	9.2381E-01	9.7151E-01	9.6027E-01
U	5.1350E+00	1.7866E+00	1.6029E+00

SPECIES	MOLE FRACTIONS
E-	5.2741E-16
HE	4.9917E-02
HE+	2.4745E-37
HE++	0.
H	3.3334E-03
H+	5.2747E-16
H2	5.4075E-01

P1 = 1.00E+04 N/SQ-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8654E+01	2.6698E+02	4.4449E+02
T	9.3478E+00	1.2601E+01	1.4330E+01
RMC	6.2226E+00	2.0175E+01	2.9366E+01
H	1.0953E+01	1.7467E+01	2.2201E+01
A	2.8917E+00	3.3713E+00	3.6711E+00
S	1.2375E+00	1.2619E+00	1.2070E+00
Z	1.0044E+00	1.0522E+00	1.0942E+00
GAME	8.8695E-01	9.5891E-01	9.5045E-01
U	5.8661E+00	1.9377E+00	1.6537E+00

SPECIES	MOLE FRACTIONS
E-	1.8920E-14
HE	4.9585E-02
HE+	7.8041E-24
HE++	0.
H	1.6614E-02
H+	1.8920E-14
H2	9.3380E-01

Table III - Continued

$$P_1 = 10 \text{ kN m}^2$$

P1 = 1.00E+04 N/50-M, US1 = 1.00E+04 M/SEC				P1 = 1.00E+04 N/50-M, US1 = 1.30E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
P	7.3205E+01	3.7465E+02	5.9519E+02	P	1.2754E+02	3.5911E+02	1.2996E+03
T	1.3560E+01	1.4102E+01	1.5830E+01	T	1.3419E+01	1.8400E+01	2.0630E+01
RMC	6.7766E+00	2.4321E+01	3.2942E+01	RMC	8.5406E+00	3.6633E+01	4.5917E+01
M	1.3330E+01	2.1796E+01	2.7257E+01	M	2.2024E+01	3.7739E+01	4.6233E+01
A	3.0557E+00	3.6352E+00	3.9661E+00	A	3.5585E+00	4.5479E+00	5.0531E+00
S	1.2654E+00	1.3220E+00	1.3617E+00	S	1.3762E+00	1.4302E+00	1.4909E+00
Z	1.0234E+00	1.0924E+00	1.1490E+00	Z	1.1129E+00	1.2746E+00	1.3720E+00
CAPE	8.6322E-01	9.5786E-01	9.6490E-01	CAPE	9.4792E-01	8.8193E-01	9.0216E-01
U	6.6207E+00	1.8441E+00	1.7150E+00	U	8.9135E+00	2.0791E+00	2.0360E+00
STANDING SHOCK				STANDING SHOCK			
P	3.7465E+02	5.9519E+02	1.5830E+01	P	3.5911E+02	1.8400E+01	2.0630E+01
T	1.4102E+01	1.5830E+01	3.2942E+01	T	1.8400E+01	3.6633E+01	4.5917E+01
RMC	2.4321E+01	3.2942E+01	2.7257E+01	RMC	3.6633E+01	3.7739E+01	4.6233E+01
M	2.1796E+01	2.7257E+01	3.9661E+00	M	3.7739E+01	4.5479E+00	5.0531E+00
A	3.6352E+00	3.9661E+00	1.3617E+00	A	4.5479E+00	1.4302E+00	1.4909E+00
S	3.6352E+00	3.9661E+00	1.3617E+00	S	1.4302E+00	1.2746E+00	1.3720E+00
Z	1.3617E+00	1.3617E+00	1.1490E+00	Z	1.2746E+00	8.8193E-01	9.0216E-01
CAPE	1.0924E+00	1.1490E+00	9.6490E-01	CAPE	8.8193E-01	2.0791E+00	2.0360E+00
U	9.5786E-01	9.6490E-01	1.7150E+00	U	2.0791E+00		
MOLE FRACTIONS				MOLE FRACTIONS			
E-	9.5953E-12	5.1935E-09	4.4503E-03	E-	3.5672E-09	5.8160E-07	2.8442E-06
HE	4.4887E-02	4.5171E-02	4.3515E-02	HE	4.4927E-02	3.9229E-02	3.6444E-02
HF+	4.6266E-24	1.9317E-21	2.7305E-19	HF+	2.3012E-22	8.5537E-17	3.7698E-15
HF++	C.	6.7415E-76	8.9013E-69	HE++	1.7110E-90	3.1445E-59	9.7037E-54
H	4.5768E-07	1.6317E-01	2.5939E-01	H	2.0252E-01	4.3086E-01	5.4223E-01
H+	9.5950E-11	5.1845E-09	4.4503E-08	H+	3.5672E-09	5.8160E-07	2.8442E-06
H2	5.0564E-01	7.4536E-01	6.9710E-01	H2	7.5216E-01	5.2991E-01	4.2132E-01

P1 = 1.00E+04 N/50-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.970E+01	5.090E+02	7.9321E+02
T	1.1621E+01	1.5540E+01	1.7354E+01
RMC	7.3760E+00	2.9656E+01	3.7642E+01
H	1.5582E+01	2.6633E+01	3.2948E+01
A	2.2105E+02	3.9176E+00	4.2917E+03
S	1.3019E+00	1.1435E+00	1.3861E+00
Z	1.0404E+00	1.1443E+00	1.2143E+03
GAME	8.5151E-01	9.6269E-01	8.7408E-01
U	7.3947E+03	1.9033E+00	1.7998E+03

SPECIES ----- MOLE FRACTIONS -----

E-	1.1409E-13	3.4160E-09	2.1603E-07
HE	4.7775E-02	4.3675E-02	4.1477E-02
HE+	1.2637E-25	1.7856E-19	9.9253E-18
HE++	0.	3.2962E-69	4.9001E-63
H	8.895CE-02	2.5300E-01	3.5290E-01
M+	1.1499E-13	3.4160E-09	2.1603E-07
M2	8.6323E-01	7.0333E-01	6.0592E-01

P1 = 1.00E+04 N/50-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0781E+02	6.7183E+02	1.0288E+03
T	1.2557E+01	1.6961E+01	1.9939E+01
RMC	7.5744E+03	3.2946E+01	4.2367E+01
H	1.8873E+01	3.1953E+01	3.9267E+01
A	3.3859E+00	4.2209E+00	4.6518E+00
S	1.3355E+00	1.3863E+00	1.4325E+00
Z	1.0767E+00	1.2059E+00	1.2889E+00
GAME	8.4752E-01	9.7102E-01	9.9454E-01
U	8.1505E+03	1.9792E+00	1.9348E+00

SPECIES ----- MOLE FRACTIONS -----

E-	7.8043E-13	1.5929E-07	9.4230E-07
HE	4.6437E-02	4.1462E-02	3.8794E-02
HE+	7.6290E-24	4.2990E-14	2.2599E-16
HE++	1.3837E-44	2.8429E-64	6.5117E-59
H	1.4254E-01	3.4153E-01	4.4924E-01
M+	7.8040E-10	1.5822E-07	9.4230E-07
M2	8.1103E-01	6.1701E-01	5.1296E-01

P1 = 1.00E+04 N/50-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4888E+02	1.0696E+03	1.6112E+03
T	1.4236E+01	1.9889E+01	2.2492E+01
RMC	9.0587E+00	3.9843E+01	4.8988E+01
H	2.5422E+01	4.3978E+01	5.3871E+01
A	3.7384E+00	4.9025E+00	5.5053E+00
S	1.4040E+00	1.4748E+00	1.5299E+00
Z	1.1545E+00	1.3498E+00	1.4623E+00
GAME	8.5033E-01	8.9529E-01	9.2154E-01
U	9.6729E+00	2.2007E+00	2.1945E+00

SPECIES ----- MOLE FRACTIONS -----

E-	1.2489E-08	1.8266E-06	8.7827E-06
HE	4.3316E-02	3.7044E-02	3.4193E-02
HE+	3.6316E-21	1.1954E-15	5.2428E-14
HE++	5.5055E-76	5.5295E-55	1.0816E-48
H	2.6766E-01	5.1825E-01	6.3225E-01
M+	1.2499E-08	1.8266E-06	8.7827E-06
M2	6.9949E-01	4.4471E-01	3.3354E-01

P1 = 1.00E+04 N/50-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7177E+02	1.2990E+03	1.9593E+03
T	1.5048E+01	2.1463E+01	2.4616E+01
RMC	9.5178E+00	4.2323E+01	5.1097E+01
H	2.9067E+01	5.0648E+01	6.2202E+01
A	3.9266E+00	5.2886E+00	6.0224E+00
S	1.4429E+00	1.5198E+00	1.5793E+00
Z	1.2600E+00	1.4301E+00	1.5577E+00
GAME	8.5433E-01	9.1122E-01	9.4591E-01
U	1.0425E+01	2.3462E+00	2.3855E+00

SPECIES ----- MOLE FRACTIONS -----

E-	3.6611E-08	5.1509E-06	2.5885E-05
HE	4.1635E-02	3.4963E-02	3.2099E-02
HE+	3.9433E-20	1.3180E-14	6.6078E-13
HE++	1.6100E-71	1.5659E-51	1.5054E-44
H	3.3459E-01	6.0145E-01	7.1597E-01
M+	3.6611E-09	5.1509E-06	2.5885E-05
M2	6.2377E-01	3.6359E-01	2.5188E-01

$$p_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+C4 N/50-M, US1 = 1.60E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.8233E+01	2.5276E+01	4.2377E+01
RHO	1.0694E+01	4.1815E+01	4.8496E+01
M	4.6130E+01	9.1317E+01	1.0347E+02
A	4.7934E+00	7.3274E+00	5.1384E+00
S	1.5983E+00	1.6952E+00	1.7715E+00
Z	1.4283E+00	1.7590E+00	1.8855E+00
NAME	8.6227E-01	1.2179E+00	1.0961E+00
U	1.3374E+01	3.2668E+00	1.7819E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00
S	1.4807E+00	1.5649E+00	1.6289E+00
Z	1.2519E+00	1.5141E+00	1.6552E+00
NAME	8.5958E-01	9.3036E-01	9.7751E-01
U	1.1173E+01	2.5185E+00	2.6221E+00

P1 = 1.00E+C4 N/50-M, US1 = 1.93F+34 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9621E+02	1.5442E+03	2.3448E+03
T	1.5810E+01	2.3174E+01	2.7176E+01
RHO	9.9136E+00	4.4008E+01	5.2127E+01
M	3.2942E+01	5.7744E+01	7.1326E+01
A	4.1247E+00	5.7135E+00	6.6311E+00

P1 = 1.00E+04 N/50-M, US1 = 1.70E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2215E+02	1.7987E+03	2.7677E+03
T	1.6396E+01	2.5087E+01	3.0463E+01
RHO	1.0242E+01	4.4830E+01	5.1947E+01
M	3.7105E+01	6.5235E+01	8.1361E+01
A	4.3339E+00	6.1899E+00	7.3667E+00
S	1.5192E+00	1.6393E+00	1.6781E+00
Z	1.3070E+00	1.5944E+00	1.7490E+00
GAME	8.6595E-01	9.5367E-01	1.0185E+00
U	1.1912E+01	2.7230E+00	2.9249E+00

SPECIES

MOLE FRACTIONS

E-	2.2366E-07	3.4562E-05	2.3958E-04
HE	3.8250E-02	3.1262E-02	2.8587E-02
ME	2.3228E-18	1.1403E-12	1.2748E-10
HE+	3.0041E-65	1.1850E-43	4.5642E-36
M	4.6977E-01	7.4942E-01	8.5579E-01
M+	2.2366E-07	3.4562E-05	2.3958E-04
M2	4.9198E-01	2.1929E-01	1.1515E-01

P1 = 1.00E+04 N/50-M, US1 = 2.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0885E+02	2.5542E+03	4.2455E+03
T	1.5117E+01	3.3269E+01	4.7437E+01
RHO	1.0815E+01	4.2078E+01	4.6529E+01
M	5.1321E+01	9.9932E+01	1.1775E+02
A	5.0489E+00	8.0051E+00	8.8779E+00
S	1.6384E+00	1.7354E+00	1.8131E+00
Z	1.4935E+00	1.7354E+00	1.8131E+00
GAME	9.9269E-01	1.0557E+00	1.0685E+00
U	1.4395E+01	3.6122E+00	4.2711E+00

SPECIES

MOLE FRACTIONS

E-	2.1517E-06	5.9835E-04	7.5979E-03
HE	3.3675E-02	2.7477E-02	2.5952E-02
ME	4.2120E-16	7.3356E-10	5.1704E-07
HE+	6.9457E-57	6.9457E-38	6.8055E-23
M	6.6088E-01	9.0213E-01	9.3753E-01
M+	2.1517E-06	5.9835E-04	7.5979E-03
M2	3.2554E-01	6.9318E-02	2.1330E-02

P1 = 1.00E+04 N/50-M, US1 = 1.80E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4955E+02	2.0574E+03	3.2299E+03
T	1.7399E+01	2.7307E+01	3.4901E+01
RHO	1.0502E+01	4.4773E+01	5.0603E+01
M	4.1497E+01	7.3107E+01	9.2462E+01
A	4.5561E+00	6.7197E+00	8.2397E+00
S	1.5595E+00	1.6533E+00	1.7260E+00
Z	1.3659E+00	1.6829E+00	1.8288E+00
GAME	9.7345E-01	9.9259E-01	1.0637E+00
U	1.2647E+01	2.9678E+00	3.3103E+00

SPECIES

MOLE FRACTIONS

E-	4.9514E-07	9.7222E-05	8.0340E-04
HE	3.6055E-02	2.9711E-02	2.7340E-02
ME	1.4338E-17	1.0040E-11	2.3159E-09
HE+	2.8253E-62	2.4220E-40	2.1631E-31
M	5.3532E-01	8.1131E-01	9.2462E+01
M+	4.9514E-07	9.7222E-05	8.0340E-04
M2	4.2758E-01	1.5801E-01	6.7050E-02

P1 = 1.00E+04 N/50-M, US1 = 2.10E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4054E+02	2.7755E+03	4.7472E+03
T	2.2083E+01	3.7253E+01	5.3721E+01
RHO	1.2863E+01	3.9783E+01	4.5737E+01
M	5.6153E+01	8.8594E+01	1.3097E+02
A	5.2272E+00	8.6921E+00	1.0440E+01
S	1.6786E+00	1.7731E+00	1.8495E+00
Z	1.5612E+00	1.8725E+00	1.9535E+00
GAME	9.6524E-01	1.0620E+00	1.0794E+00
U	1.6803E+01	4.0432E+00	4.6776E+00

SPECIES

MOLE FRACTIONS

E-	4.3744E-06	1.5276E-03	1.5911E-02
HE	3.2027E-02	2.6494E-02	2.5592E-02
ME	2.2032E-15	9.0790E-05	3.0382E-06
HE+	4.9842E-54	2.7305E-28	4.3691E-20
M	7.1850E-01	9.2757E-01	9.2845E-01
M+	4.3744E-06	1.5276E-03	1.5909E-02
M2	2.4966E-01	4.2683E-02	1.4136E-02

Table III. - Continued

$$P_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/50-M, US1 = 2.20E+04 M/SEC				P1 = 1.00E+04 N/50-M, US1 = 2.50E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.735E+02	2.975E+03	5.222E+03	P	4.790E+02	3.456E+03	6.313E+03
T	2.113E+01	4.176E+01	5.942E+01	T	2.576E+01	5.536E+01	7.327E+01
RHO	1.083E+01	3.737E+01	4.430E+01	RHO	1.015E+01	3.159E+01	4.133E+01
M	6.152E+01	1.076E+02	1.443E+02	M	7.907E+01	1.365E+02	1.852E+02
A	5.635E+00	9.295E+00	1.093E+01	A	6.877E+00	1.055E+01	1.224E+01
S	1.719E+00	1.802E+00	1.943E+00	S	1.831E+00	1.902E+00	1.975E+00
Z	1.629E+03	1.906E+03	1.983E+00	Z	1.823E+00	1.972E+00	2.084E+00
GAME	9.210E-01	1.093E+00	1.315E+00	GAME	1.004E+00	1.017E+00	9.801E-01
U	1.550E+01	4.493E+00	5.016E+00	U	1.751E+01	5.645E+00	5.737E+00
E-	8.950E-06	3.659E-03	2.718E-02	E-	1.001E-04	2.228E-02	7.056E-02
ME	3.067E-02	2.622E-02	2.519E-02	ME	2.741E-02	2.529E-02	2.384E-02
HE+	1.180E-14	7.246E-09	1.126E-05	HE+	3.774E-12	5.402E-06	1.183E-04
HE++	2.569E-51	5.097E-26	4.663E-18	HE++	4.991E-42	2.572E-19	2.125E-14
H	7.729E-01	9.398E-01	9.131E-01	H	9.329E-01	9.211E-01	8.297E-01
M+	8.950E-03	3.659E-03	2.717E-02	M+	1.001E-04	2.227E-02	7.045E-02
M2	1.963E-01	2.656E-02	1.031E-02	M2	6.939E-02	5.039E-01	5.239E-02

P1 = 1.00E+04 N/50-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0775E+02	3.1570E+03	5.6550E+03
T	2.2393E+01	4.6462E+01	6.4533E+01
RMD	1.0721E+01	3.5195E+01	4.3477E+01
M	6.7144E+01	1.1691E+02	1.5780E+02
A	5.9839E+00	9.7819E+00	1.1394E+01
S	1.7585E+00	1.8619E+00	1.140E+00
Z	1.6904E+00	1.9311E+00	2.0154E+00
GAPE	9.4140E-01	1.0644E+00	9.0021E-01
U	1.6194E+01	4.9308E+00	5.2976E+00

SPECIES

MOLE FRACTIONS

E-	1.8811E-05	7.6554E-03	4.0513E-02
HE	2.9439E-02	2.5892E-02	2.4777E-02
ME	6.8124E-14	4.2336E-07	2.9955E-05
ME+	1.2127E-08	2.9527E-23	1.5407E-14
M	8.2237E-01	9.4134E-01	8.8621E-01
M+	1.8811E-05	7.6549E-03	4.0493E-02
M2	1.4816E-01	1.7453E-02	7.9854E-03

P1 = 1.00E+04 N/50-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.155E+02	3.5594E+03	6.4962E+03
T	2.8204E+01	5.9272E+01	7.6987E+01
RMD	9.7653E+00	3.0014E+01	3.9724E+01
M	8.5373E+01	1.4681E+02	1.9886E+02
A	7.4526E+00	1.3591E+01	1.2630E+01
S	1.8709E+00	1.9325E+00	2.0057E+00
Z	1.9720E+00	2.0037E+00	2.1242E+00
GAPE	1.0520E+00	1.0032E+00	5.7537E-01
U	1.9124E+01	5.9933E+00	5.9073E+00

SPECIES

MOLE FRACTIONS

E-	2.6364E-04	3.2344E-02	8.6322E-02
HE	2.4710E-02	2.4979E-02	2.3945E-02
ME	3.9274E-11	1.3141E-05	1.9402E-04
ME+	2.4449E-39	6.0914E-18	1.2547E-13
M	9.3081E-01	9.0335E-01	7.9948E-01
M+	2.6364E-04	3.2331E-02	8.6128E-02
M2	4.1955E-02	6.9857E-03	4.3280E-03

P1 = 1.00E+04 N/50-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.4299E+02	3.3216E+03	6.3290E+03
T	2.3390E+01	5.1045E+01	6.9151E+01
RMD	1.0512E+01	3.3314E+01	4.2527E+01
M	7.2995E+01	1.2657E+02	1.7159E+02
A	6.3932E+00	1.0187E+01	1.1832E+01
S	1.7974E+00	1.8723E+00	1.9453E+00
Z	1.7642E+00	1.9532E+00	2.0501E+00
GAPE	9.6905E-01	1.0609E+00	9.8721E-01
U	1.8844E+01	5.3163E+00	5.5437E+00

SPECIES

MOLE FRACTIONS

E-	4.1708E-05	1.7847E-02	5.5219E-02
HE	2.8342E-02	2.5597E-02	2.4325E-02
ME	4.5643E-13	1.7451E-06	6.4339E-05
ME+	1.6155E-05	4.5492E-21	2.4194E-15
M	8.4621E-01	9.3443E-01	8.5804E-01
M+	4.1708E-05	1.7846E-02	5.5154E-02
M2	1.0534E-01	1.2234E-02	6.4031E-03

P1 = 1.00E+04 N/50-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5253E+02	3.6268E+03	6.5855E+03
T	3.1289E+01	6.2884E+01	8.0373E+01
RMD	9.2658E+00	2.8441E+01	3.7873E+01
M	9.1882E+01	1.5730E+02	2.1242E+02
A	9.6325E+00	1.1219E+01	1.3032E+01
S	1.9643E+00	1.9622E+00	2.0364E+00
Z	1.9359E+00	2.0279E+00	2.1639E+00
GAPE	1.9561E+00	5.8497E-01	5.7207E-01
U	1.8705E+01	6.5923E+00	6.5516E+00

SPECIES

MOLE FRACTIONS

E-	7.3637E-04	4.3929E-02	1.6239E-01
HE	2.4623E-02	2.4629E-02	2.2913E-02
ME	4.6771E-10	2.7271E-05	2.6497E-04
ME+	1.9546E-34	8.1315E-17	5.5868E-13
M	9.4843E-01	9.8195E-01	7.6892E-01
M+	7.3037E-04	4.3929E-02	1.6239E-01
M2	2.7907E-02	5.5311E-03	3.5997E-03

$$p_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/SQ-M, US1 = 3.03E+04 W/SEC			
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	7.0793E+02	4.02776E+03	7.0904E+03
T	4.8005E+01	7.0746E+01	9.0060E+01
RHO	7.7819E+00	2.4743E+01	3.0746E+01
M	1.2803E+02	2.1045E+02	2.8729E+02
A	9.0439E+00	1.0497E+01	1.4896E+01
Z	2.0377E+00	2.0970E+00	2.1766E+00
GAME	9.0504E+01	9.6212E+01	9.7037E+01
U	2.0165E+01	6.0062E+00	6.7497E+00
SPECIES	----- MULE FRACTIONS -----		
E-	2.02173E-02	1.0141E-01	1.0273E-01
HE	2.05154E-02	2.2474E-02	1.9672E-02
HE+	1.0942E-06	2.0909E-04	1.3256E-03
HE++	2.2305E-21	4.3285E-13	1.3901E-10
H	9.2725E-01	7.4696E-01	6.1324E-01
H+	2.2171E-02	1.1392E-01	1.0141E-01
H2	3.02471E-03	2.3306E-03	1.6261E-03

P1 = 1.00E+04 N/SQ-M, US1 = 2.80E+04 W/SEC			
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	5.0910E+02	3.6879E+03	6.6443E+03
T	9.3482E+01	9.3439E+01	9.3439E+01
RHO	8.7753E+00	2.7368E+01	3.6140E+01
M	9.8609E+01	1.6913E+02	2.2609E+02
A	8.5954E+00	1.0154E+01	1.3354E+01
Z	1.9355E+00	1.9913E+00	2.2657E+00
GAME	1.9272E+00	2.0572E+00	2.2035E+00
U	1.0900E+00	9.7749E-01	9.6999E-01
	1.9226E+01	6.02477E+00	6.1807E+00
SPECIES	----- MOLE FRACTIONS -----		
E-	1.0924E-03	5.6575E-02	1.1804E-01
HE	2.5944E-02	2.4259E-02	2.0273E-02
HE+	4.9403E-09	5.0101E-05	4.1912E-04
HE++	1.0082E-30	7.0407E-16	1.9611E-12
H	9.5645E-01	8.5811E-01	7.3863E-01
H+	1.9240E-03	5.6525E-02	1.1762E-01
H2	1.3756E-02	4.4952E-03	3.0139E-01

P1 = 1.00E+04 N/SO-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.290E+02	3.772E+03	6.730E+03
T	3.865E+01	6.941E+01	8.647E+01
RHC	8.375E+00	2.602E+01	3.472E+01
M	1.055E+02	1.793E+02	2.401E+02
A	9.031E+00	1.186E+01	1.371E+01
S	1.963E+00	2.019E+00	2.094E+00
Z	1.542E+00	2.098E+00	2.244E+00
GAME	1.0791E+01	9.738E+01	9.688E+01
U	1.9833E+01	6.382E+00	6.310E+00

SPECIES	MOLE FRACTIONS
E-	4.410E-03
HE	2.574E-02
HE+	3.721E-04
HE++	1.477E-27
H	5.563E-01
H+	4.410E-03
H2	8.502E-03

P1 = 1.00E+04 N/SO-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.695E+02	3.999E+03	6.910E+03
T	4.234E+01	7.254E+01	8.957E+01
RHC	9.690E+00	2.532E+01	3.370E+01
M	1.127E+02	1.513E+02	2.524E+02
A	9.315E+00	1.219E+01	1.409E+01
S	1.989E+00	2.041E+00	2.128E+00
Z	1.555E+00	2.121E+00	2.287E+00
GAME	1.068E+01	5.639E+01	9.645E+01
U	2.041E+01	6.523E+00	6.449E+00

SPECIES	MOLE FRACTIONS
E-	9.603E-03
HE	2.556E-02
HE+	1.899E-07
HE++	5.194E-25
H	9.514E-01
H+	8.603E-03
H2	5.744E-03

P1 = 1.00E+04 N/SO-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.539E+02	4.792E+03	9.324E+03
T	5.471E+01	8.493E+01	1.029E+02
RHC	7.692E+00	2.479E+01	3.257E+01
M	1.443E+02	2.441E+02	3.228E+02
A	1.035E+01	1.363E+01	1.577E+01
S	2.082E+00	2.145E+00	2.229E+00
Z	2.028E+00	2.275E+00	2.491E+00
GAME	9.645E+01	9.618E+01	9.737E+01
U	2.297E+01	7.121E+00	7.392E+00

SPECIES	MOLE FRACTIONS
F-	4.104E-02
HE	2.464E-02
HE+	9.159E-05
HE++	5.924E-15
H	8.913E-01
H+	4.107E-02
H2	2.184E-03

P1 = 1.00E+04 N/SO-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.575E+02	5.406E+03	9.344E+03
T	5.977E+01	9.113E+01	1.101E+02
RHC	7.709E+00	2.512E+01	3.241E+01
M	1.617E+02	2.739E+02	3.615E+02
A	1.036E+01	1.440E+01	1.669E+01
S	2.125E+00	2.192E+00	2.279E+00
Z	2.078E+00	2.361E+00	2.594E+00
GAME	9.494E+01	9.637E+01	9.790E+01
U	2.433E+01	7.460E+00	7.469E+00

SPECIES	MOLE FRACTIONS
E-	6.333E-02
HE	2.403E-02
HE+	2.821E-05
HE++	3.383E-17
H	4.770E-01
H+	6.330E-02
H2	1.664E-03

Table III. - Continued

$$P_1 = 10 \text{ kW/m}^2$$

P1 = 1.00E+04 N/50-M, US1 = 4.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3691E+03	6.3989E+03	1.0511E+04
T	6.4391E+01	9.7353E+01	1.1772E+02
PHR	7.7739E+03	2.5551E+01	3.3156E+01
H	1.6013E+02	3.0564E+02	4.0315E+02
A	1.1375E+01	1.5194E+01	1.7682E+01
S	2.1676E+00	2.2389E+00	2.3299E+00
Z	2.1341E+00	2.6516E+00	2.6529E+00
GAME	5.4176E-01	9.6717E-01	5.9606E-01
U	2.5715E+01	7.8189E+00	7.9759E+00
SPECIES			
----- MOLE FRACTIONS -----			
E-	8.7464E-02	2.0572E-01	2.7659E-01
HE	2.3363E-02	1.9771E-02	1.4339E-02
HE+	6.6493E-05	1.6235E-03	4.2294E-03
HE++	7.9125E-16	2.5724E-10	1.9552E-09
H	6.0041E-01	5.6869E-01	4.3177E-01
H+	7.7429E-02	7.6409E-01	2.7236E-01
H2	1.2400E-03	1.1018E-03	7.0942E-04
P1 = 1.00E+04 N/50-M, US1 = 3.40E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4387E+03	8.5131E+03	1.4709E+04
T	7.6795E+01	1.1651E+02	1.4318E+02
RHD	8.0414E+00	2.6683E+01	3.3913E+01
H	2.4142E+02	4.1169E+02	5.4509E+02
A	1.2959E+01	1.7717E+01	2.1019E+01
S	2.2915E+00	2.3749E+00	2.4796E+00
Z	2.3297E+00	2.7384E+00	3.0293E+00
GAME	5.3966E-01	9.8387E-01	1.0186E+00
U	2.9921E+01	9.0122E+00	9.3012E+00
SPECIES			
----- MOLE FRACTIONS -----			
E-	1.6361E-01	2.9943E-01	3.5656E-01
HE	2.1060E-02	1.3877E-02	8.9838E-03
HE+	4.0180E-04	4.3817E-03	7.5209E-03
HE++	5.7442E-13	1.9410E-08	7.5518E-07
H	6.5107E-01	4.0873E-01	2.7761E-01
H+	1.6321E-01	2.8405E-01	3.4904E-01
H2	6.3996E-04	5.2645E-04	2.7714E-04

PI = 1.00E+04 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.145E+03	6.953E+03	1.1802E+04
T	6.865E+01	1.036E+02	1.256E+02
MHC	7.960E+01	2.595E+01	3.350E+01
M	1.995E+02	3.592E+02	4.475E+02
A	1.149E+01	1.603E+01	1.872E+01
S	2.250E+00	2.284E+00	2.377E+00
Z	1.195E+00	2.545E+00	2.873E+00
GAME	9.384E-01	9.716E-01	9.949E-01
U	1.711E+01	9.196E+00	8.314E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.124E-01	2.346E-01	3.049E-01
HE	4.204E-02	1.743E-02	1.242E-02
ME	1.340E-04	2.479E-03	5.412E-03
MHC	1.015E-14	1.289E-09	7.361E-08
M	7.510E-01	5.125E-01	3.771E-01
S	1.127E-01	2.322E-01	2.995E-01
Z	9.825E-04	9.665E-04	5.301E-04

PI = 1.00E+04 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.308E+03	7.661E+03	1.320E+04
T	7.281E+01	1.100E+02	1.341E+02
MHC	7.952E+00	2.637E+01	3.375E+01
M	2.195E+02	3.746E+02	4.949E+02
A	1.242E+01	1.684E+01	1.987E+01
S	2.250E+00	2.329E+00	2.429E+00
Z	2.260E+00	2.643E+00	2.916E+00
GAME	9.377E-01	9.771E-01	1.005E+00
U	2.951E+01	9.593E+00	8.789E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.391E-01	2.623E-01	3.317E-01
HE	2.187E-02	1.594E-02	1.060E-02
ME	2.417E-04	3.347E-03	6.541E-03
MHC	8.780E-14	5.392E-09	2.477E-07
M	7.012E-01	4.591E-01	3.254E-01
S	1.370E-01	2.589E-01	3.232E-01
Z	7.504E-04	6.792E-04	3.876E-04

PI = 1.00E+04 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.574E+03	9.395E+03	1.631E+04
T	8.069E+01	1.231E+02	1.530E+02
MHC	8.123E+00	2.688E+01	3.391E+01
M	2.639E+02	4.503E+02	5.982E+02
A	1.350E+01	1.861E+01	2.228E+01
S	2.332E+00	2.419E+00	2.527E+00
Z	2.402E+00	2.836E+00	3.142E+00
GAME	9.406E-01	9.918E-01	1.033E+00
U	3.132E+01	9.469E+00	8.859E+00

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	1.887E-01	3.129E-01	3.795E-01
HE	2.018E-02	1.218E-02	7.587E-03
ME	6.275E-04	5.443E-03	8.323E-03
MHC	3.028E-12	6.159E-08	2.154E-06
M	6.018E-01	3.614E-01	2.330E-01
S	1.880E-01	3.075E-01	3.712E-01
Z	5.198E-04	4.038E-04	1.916E-04

PI = 1.00E+04 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.716E+03	1.032E+04	1.801E+04
T	9.454E+01	1.301E+02	1.639E+02
MHC	8.198E+00	2.703E+01	3.380E+01
M	2.872E+02	4.907E+02	6.547E+02
A	1.695E+01	1.955E+01	2.364E+01
S	2.372E+00	2.462E+00	2.575E+00
Z	2.476E+00	2.534E+00	3.251E+00
GAME	9.434E-01	1.001E+00	1.048E+00
U	3.273E+01	9.915E+00	1.046E+01

SPECIES

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
E-	2.134E-01	3.358E-01	4.004E-01
HE	1.925E-02	1.035E-02	6.426E-03
ME	9.307E-04	6.451E-03	8.940E-03
MHC	1.340E-11	1.763E-07	5.863E-06
M	5.541E-01	3.174E-01	1.925E-01
S	2.121E-01	3.293E-01	3.915E-01
Z	4.228E-04	3.062E-04	1.279E-04

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

$p_1 = 10 \text{ kN/m}^2$

P1 = 1.00E+04 N/SQ-M, US1 = 5.60F+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3422E+03	1.4397F+04	2.5677E+04
T	1.0019E+02	1.6192E+02	2.2209E+02
RMD	8.3565E+02	2.6294E+02	3.1927E+01
M	3.9395E+02	6.5655F+02	9.1494F+02
A	1.6402E+01	2.3725E+01	2.9042E+01
S	2.5358E+00	2.6335F+00	2.7619E+00
Z	2.7979E+00	3.3133F+00	3.6213E+00
GAME	9.5984E-01	1.0499F+01	1.1148E+00
U	3.8285E+01	1.2155F+01	1.3583F+01

P1 = 1.00E+04 N/SQ-M, US1 = 5.60F+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9757E+04	1.1250E+04	1.8643E+03
T	1.7594E+02	1.3740E+02	9.8409E+01
RMD	3.3516E+01	2.6992E+01	8.2539E+00
M	7.1442E+02	5.3253E+02	3.1171E+02
A	2.5088E+01	2.0535E+01	1.4624E+01
S	2.6239E+00	2.5069E+00	2.4139E+00
Z	3.3571E+00	3.0334E+00	2.5548E+00
GAME	1.0656E+00	1.0311E+00	9.4680E-01
U	1.1149E+01	1.0429E+01	3.4123E+01

P1 = 1.03E+04 N/SQ-M, US1 = 5.00E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0321F-01	4.1154F-01	4.6153F-01
T	1.4715E-02	5.7671F-03	3.3652E-03
RMD	1.1540E-03	6.3174E-03	1.0194E-02
M	1.7448E-09	6.2348E-06	2.4967F-04
A	3.7870E-01	1.7108E-01	7.3807E-02
S	3.0045E-01	4.0221E-01	4.5084E-01
Z	1.7513E-04	8.0839E-04	1.6632E-03

P1 = 1.03E+04 N/SQ-M, US1 = 5.00E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.1923E-01	3.5739E-01	2.3706E-01
T	5.4631E-03	9.1091E-03	1.8241E-02
RMD	9.4151E-03	7.3735F-03	1.3302E-03
M	1.5426E-01	4.6938E-01	5.2722E-11
A	1.5601E-01	2.7589E-01	5.0729E-01
S	4.0979E-01	3.5001E-01	2.3573E-01
Z	9.1910E-05	2.2645E-04	3.4179E-04

SPECIES ----- MOLE FRACTIONS -----			
E-	3.0321F-01	4.1154F-01	4.6153F-01
HE	1.4715E-02	5.7671F-03	3.3652E-03
HE+	1.1540E-03	6.3174E-03	1.0194E-02
HE++	1.7448E-09	6.2348E-06	2.4967F-04
H	3.7870E-01	1.7108E-01	7.3807E-02
H+	3.0045E-01	4.0221E-01	4.5084E-01
H2	1.7513E-04	8.0839E-04	1.6632E-03

P1 = 1.00E+04 N/SQ-M, US1 = 5.80E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0177E+03	1.5033E+04	2.7777E+04
T	9.2276E+01	1.7114E+02	2.4120E+02
RHO	8.3003E+00	2.5849E+01	3.1250E+01
M	3.3711E+02	7.1311E+02	9.8450E+02
A	1.5201E+01	2.4717E+01	3.1625E+01
S	2.4546E+03	2.6742E+03	2.8749E+03
Z	2.6343E+00	3.3911E+00	3.6522E+00
GAME	9.5065E-01	1.0641E+00	1.1251E+00
U	3.5514E+01	1.2920E+01	1.4544E+01

SPECIES	MOLE FRACTIONS
E-	3.2321E-01
HE	1.3301E-02
ME+	3.9681E-03
HE++	4.8158E-09
H	3.4035E-01
M+	3.1925E-01
M2	1.3701E-04
	4.7686E-01
	2.4051E-03
	1.0184E-02
	5.7977E-04
	5.6036E-02
	4.5922E-01
	9.7140E-06

P1 = 1.00E+04 N/SQ-M, US1 = 5.00E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6807E+03	1.5939E+04	2.9924E+04
T	1.0950E+02	1.8118E+02	2.6204E+02
RHO	8.3587E+00	2.5335E+01	3.7556E+01
M	4.4859E+02	7.6219E+02	1.0659E+03
A	1.7678E+01	2.6666E+01	3.3267E+01
S	2.6159E+03	2.7139E+03	2.9462E+03
Z	2.9649E+00	3.4765E+00	3.7372E+00
GAME	9.7154E-01	1.0747E+00	1.1301E+00
U	4.1021E+01	1.3540E+01	1.5465E+01

SPECIES	MOLE FRACTIONS
E-	3.4238E-01
HE	1.2065E-02
ME+	4.8548E-03
HE++	1.2642E-09
H	3.0313E-01
M+	3.3752E-01
M2	1.0702E-04
	4.3912E-01
	4.3033E-03
	1.0049E-02
	2.9679E-05
	1.1745E-01
	4.2521E-02
	4.6597E-01
	5.1161E-06

P1 = 1.00E+04 N/SQ-M, US1 = 5.20E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.0177E+03	1.2193E+04	2.1664E+04
T	9.2276E+01	1.4502E+02	1.8952E+02
RHO	8.3003E+00	2.6864E+01	3.3078E+01
M	3.3711E+02	5.7575E+02	7.7743E+02
A	1.5201E+01	2.1553E+01	2.6633E+01
S	2.4546E+03	2.5498E+03	2.6711E+03
Z	2.6343E+00	3.1297E+00	3.4558E+00
GAME	9.5065E-01	1.0235E+00	1.0830E+00
U	3.5514E+01	1.0966E+01	1.1883E+01

SPECIES	MOLE FRACTIONS
E-	2.6003E-01
HE	1.7150E-03
ME+	1.8302E-03
HE++	1.8443E-13
H	4.6251E-01
M+	2.5920E-01
M2	2.7543E-04
	3.7710E-01
	7.9190E-03
	8.1559E-03
	9.7723E-03
	3.9874E-05
	1.1629E-06
	2.3782E-01
	4.2593E-01
	3.6994E-01
	1.6460E-04
	4.3578E-01
	4.6564E-03
	9.7723E-03
	3.9874E-05
	1.1629E-06
	2.3782E-01
	4.2593E-01
	3.6994E-01
	1.6460E-04
	5.0038E-05

P1 = 1.00E+04 N/SQ-M, US1 = 5.40E+04 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1772E+03	1.3152E+04	2.3617E+04
T	5.6153E+01	1.5312E+02	2.0450E+02
RHO	8.3353E+00	2.6650E+01	3.2602E+01
M	3.6351E+02	6.2055E+02	9.4391E+02
A	1.5794E+01	2.2614E+01	2.8224E+01
S	2.4951E+03	2.5919E+03	2.7159E+03
Z	2.7154E+00	3.2230E+00	3.4244E+00
GAME	9.5498E-01	1.0362E+00	1.0996E+00
U	3.6505E+01	1.1534E+01	1.2660E+01

SPECIES	MOLE FRACTIONS
E-	2.9211E-01
HE	1.5974E-02
ME+	2.4395E-03
HE++	5.8967E-10
H	4.1960E-01
M+	2.7967E-01
M2	2.2653E-04
	3.4539E-01
	6.7128E-03
	9.7911E-03
	2.7383E-04
	9.8917E-05
	4.6984E-02
	2.0330E-01
	3.8628E-01
	1.1711E-04
	4.4955E-01
	3.9881E-03
	1.0329E-02
	9.8917E-05
	4.6984E-02
	4.3932E-01
	2.9779E-05

$$p_1 = 10 \text{ kN/m}^2$$

P1 = 1.00E+04 N/SQ-M, US1= 6.20F+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.870E+03	1.681E+04	3.2091E+04
T	1.1290E+02	1.9204E+02	2.8404E+02
Y	8.3390E+00	2.4684E+01	2.9997E+01
RHO	1.7889E+02	8.1162E+02	1.1453E+03
M	1.8353E+01	2.7297E+01	3.493E+01
A	2.6557E+00	2.7525E+00	2.8852E+00
S	3.0495E+00	3.7790E+00	3.7790E+00
Z	9.7873E-01	1.0930E+00	1.1317E+00
GAME	4.2374E+01	1.6315E+01	1.6611E+01
U			
SPECIES	MOLE FRACTIONS		
E-	3.6041E-01	4.5031E-01	4.8399E-01
HE	1.0605E-03	3.7305E-03	1.7396E-03
HE+	5.7966E-03	1.0302E-02	9.1600E-03
HE++	3.1617E-08	6.2619E-05	2.3266E-03
H	2.6848E-01	9.5683E-02	3.5608E-02
M+	3.5462E-03	4.3989E-01	4.7017E-01
M2	8.2010E-05	2.2733E-05	2.9085E-06

P1 = 1.00E+04 N/SQ-M, US1= 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6438E+03	1.9861E+04	4.0579E+04
T	1.3331E+02	2.4424E+02	3.8629E+02
RHO	8.1036E+00	2.1691E+01	2.7343E+01
M	6.0965E+02	1.0184E+03	1.4905E+03
A	2.1415E+01	3.2168E+01	4.1732E+01
S	2.8112E+00	2.8965E+00	3.0285E+00
Z	3.3729E+00	3.7490E+00	3.8944E+00
GAME	1.0195E+00	1.1301E+00	1.1607E+00
U	4.7654E+01	1.7790E+01	2.0362E+01

SPECIES	MOLE FRACTIONS
E-	4.2188E-01
HE	5.5409E-03
HE+	9.2823E-03
HE++	8.9662E-07
H	1.5067E-01
H+	4.1240E-01
M2	2.3201E-05
	4.7984E-01
	2.0031E-03
	1.0403E-02
	9.3045E-04
	3.9203E-02
	4.6760E-01
	3.1713E-06
	4.9800E-01
	3.0320E-04
	4.0152E-03
	9.5534E-03
	1.2256E-02
	4.7687E-01
	3.6374E-07

P1 = 1.00E+04 N/SQ-M, US1= 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0564E+03	1.7656E+04	3.4248E+04
T	1.1752E+02	2.0359E+02	3.0781E+02
RHO	1.1048E+00	2.4030E+01	2.9173E+01
M	5.1016E+02	8.6206E+02	1.2277E+03
A	1.9059E+01	2.8508E+01	3.6496E+01
S	2.6951E+00	2.7893E+00	2.9238E+00
Z	3.1317E+00	3.6089E+00	3.8143E+00
GAME	9.8700E-01	1.1061E+00	1.1345E+00
U	4.3717E+01	1.5121E+01	1.7379E+01

SPECIES	MOLE FRACTIONS
E-	3.7739E-01
HE	9.2226E-03
HE+	6.7433E-03
HE++	7.5862E-07
H	2.3594E-01
H+	3.7065E-01
M2	6.1823E-05
	4.5969E-01
	3.2414E-03
	1.0485E-02
	1.2792E-04
	7.7492E-02
	4.4895E-01
	1.4309E-05
	4.8877E-01
	1.2363E-03
	8.0021E-03
	3.8701E-03
	2.5096E-02
	4.7303E-01
	1.6663E-06

P1 = 1.00E+04 N/SQ-M, US1= 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2477E+03	1.8656E+04	3.6411E+04
T	1.2242E+02	2.1639E+02	3.3249E+02
RHO	8.2547E+00	2.3278E+01	2.8498E+01
M	5.4233E+02	9.1352E+02	1.3131E+03
A	1.9801E+01	2.9766E+01	3.8183E+01
S	2.7343E+00	2.9263E+00	2.9599E+00
Z	3.2140E+00	3.6440E+00	3.8429E+00
GAME	9.9855E-01	1.1175E+00	1.1411E+00
U	4.5046E+01	1.5960E+01	1.9379E+01

SPECIES	MOLE FRACTIONS
E-	3.9333E-01
HE	7.8935E-03
HE+	7.6632E-03
HE++	1.7659E-07
H	2.0540E-01
H+	3.8547E-01
M2	4.5674E-05
	4.6780E-01
	2.7912E-03
	1.0596E-02
	2.5944E-04
	6.1853E-02
	4.669E-01
	8.7032E-06
	4.9257E-01
	8.2160E-04
	6.4058E-03
	5.5836E-03
	1.9621E-02
	4.7484E-01
	9.8870E-07

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

Table III. - Continued

$$P_1 = 20 \text{ kN/m}^2$$

P1 = 2.0CE+04 N/SQ-M, US1 = 4.0JF+03 W/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1124E+01	2.3097E+01	5.6542E+01
T	2.0249E+00	3.5090E+00	4.9522E+00
RHO	3.9378E+00	6.5923E+00	1.1417E+01
H	2.9991E+00	3.6131E+00	5.1957E+00
A	1.6757E+00	1.8601E+00	2.1893E+00
S	1.0691E+00	1.0707E+00	1.0922E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAPE	9.9439E-01	9.9439E-01	9.9439E-01
U	2.3176E+00	1.3854E+00	1.2214E+00
SPECIES			
----- MULE FRACTIONS -----			
E-	2.1636E-07	9.0645E-40	1.0921E-32
HE	5.0033E-72	5.0033E-72	5.0033E-72
HE+	5.5872E-72	4.9484E-61	1.1331E-51
HE++	0.	0.	0.
H	6.9940E-12	6.1870E-10	2.1527E-06
H+	6.3402E-20	6.3460E-20	6.3460E-20
H2	9.5300E-01	9.5000E-01	9.5000E-01

P1 = 4.0JF+04 N/SQ-M, US1 = 7.0JF+03 W/SEC			
	MUING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4823E+01	1.2431E+02	2.3594E+02
T	6.4750E+00	9.1442E+00	1.1351E+01
RHO	5.3790E+00	1.5525E+01	2.3446E+01
H	4.9070E+00	1.0610E+01	1.3991E+01
A	2.4744E+00	2.9907E+00	3.1972E+00
S	1.1757E+00	1.1225E+00	1.2227E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00
GAPE	9.9439E-01	9.9439E-01	9.9439E-01
U	4.4255E+00	1.7589E+00	1.5817E+00
SPECIES			
----- MULE FRACTIONS -----			
E-	3.4347E-20	2.0822E-14	1.7329E-11
HE	4.9955E-02	4.9937E-02	4.9172E-02
HE+	1.7907E-44	7.6885E-33	2.0409E-26
HE++	0.	0.	0.
H	2.0105E-34	6.5209E-03	3.3117E-02
H+	5.7706E-20	2.9823E-14	1.7329E-11
H2	9.4940E-01	9.4364E-01	9.1771E-01

PI = 2.00E+04 N/SQ-M, USL = 9.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5831E+01	1.8748E+02	3.2677E+02
T	7.5671E+00	1.1114E+01	1.3157E+01
RHC	5.7502E+00	1.6442E+01	2.3790E+01
H	3.8285E+00	1.1364E+01	1.7857E+01
A	2.7103E+00	3.1524E+00	3.4514E+00
S	1.2137E+00	1.2313E+00	1.2641E+00
Z	1.5012E+00	1.5016E+00	1.7438E+00
GAME	7.2551E-01	8.7968E-01	9.6726E-01
U	5.1321E+00	1.5158E+00	1.6777E+00

SPECIES	MOLE FRACTIONS
E-	3.5546E-14
HE	4.9559E-32
HE+	1.2215E-37
HE++	0.
H	2.4252E-03
H+	3.5574E-10
H2	5.4774E-01
	1.1354E-11
	4.9708E-02
	7.4597E-24
	3.
	2.1694E-02
	1.1003E-10
	1.1910E-01
	6.7390E-10
	9.6812E-01
	6.7390E-10
	4.7901E-02
	6.0886E-23
	9.0937E-82
	9.1979E-02
	6.7390E-10
	9.6812E-01

PI = 2.00E+04 N/SQ-M, USL = 9.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8164E+01	2.0217E+02	4.4239E+02
T	6.4274E+00	1.2949E+01	1.4835E+01
RHC	5.1721E+00	1.9517E+01	2.7525E+01
H	1.0547E+01	1.7437E+01	2.2273E+01
A	2.9144E+00	3.4177E+00	3.7311E+00
S	1.2843E+00	1.2736E+00	1.3067E+00
Z	1.0064E+00	1.0222E+00	1.0934E+00
GAME	8.5317E-01	8.7601E-01	9.6619E-01
U	5.8567E+00	1.4516E+00	1.6936E+00

SPECIES	MOLE FRACTIONS
E-	1.4530E-13
HE	4.7975E-02
HE+	2.2244E-23
HE++	5.8023E-44
H	8.1005E-02
H+	4.7430E-13
H2	8.7102E-01
	4.7430E-13
	4.7975E-02
	1.5312E-20
	4.9995E-73
	1.5308E-01
	9.5793E-09
	7.0987E-01

REPRODUCIBILITY
ORIGINAL PAGE IS POOR

PI = 2.00E+04 N/SQ-M, USL = 5.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7520E+01	4.6983E+01	1.0222E+02
T	3.9702E+00	5.1619E+00	7.0433E+00
RHC	4.5267E+00	9.0228E+00	1.4512E+01
H	3.5935E+00	5.4333E+00	7.6513E+00
A	1.9451E+00	2.2311E+00	2.5772E+00
S	1.1306E+00	1.1123E+00	1.1377E+00
Z	1.0001E+00	1.0000E+00	1.0002E+00
GAME	9.8155E-01	9.6425E-01	9.4273E-01
U	3.0254E+00	1.5105E+00	1.3724E+00

SPECIES	MOLE FRACTIONS
E-	2.9203E-45
HE	5.0030E-32
HE+	1.7322E-50
HE++	0.
H	2.5019E-09
H+	6.3400E-20
H2	9.4999E-01
	9.3327E-20
	5.0000E-02
	4.1737E-50
	3.
	5.2392E-26
	6.3400E-20
	5.9927E-19
	9.4999E-01
	6.4272E-19
	4.9991E-02
	1.3269E-39
	0.
	3.6145E-04
	5.9927E-19
	9.4999E-01

PI = 2.00E+04 N/SQ-M, USL = 6.00E+03 W/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5405E+01	7.0040E+01	1.6189E+02
T	5.0550E+00	7.0750E+00	9.2854E+00
RHC	4.5854E+00	1.1253E+01	1.7370E+01
H	5.3563E+00	7.6922E+00	1.0559E+01
A	2.2177E+00	2.5414E+00	2.9120E+00
S	1.1441E+00	1.1531E+00	1.1411E+00
Z	1.0001E+00	1.0002E+00	1.0002E+00
GAME	9.8155E-01	9.6425E-01	9.4273E-01
U	3.0254E+00	1.5105E+00	1.3724E+00

SPECIES	MOLE FRACTIONS
E-	1.7704E-31
HE	5.0030E-32
HE+	6.1165E-51
HE++	0.
H	5.4400E-06
H+	4.1192E-14
H2	9.4999E-01
	1.0557E-19
	4.7395E-02
	2.3775E-40
	3.
	4.1694E-04
	6.4521E-03
	4.1615E-14
	9.4999E-01

Table III. - Continued

$$P_1 = 20 \text{ kW/m}^2$$

P1 = 2.00E+04 N/50-M, US1 = 1.33E+04 M/SEC			
	MWING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2717E+02	1.2485E+02	1.2677E+03
T	1.3893E+01	1.5254E+01	2.1820E+01
MHL	9.3064E+00	3.4261E+01	4.3167E+01
H	2.2339E+01	3.7532E+01	4.6381E+01
A	3.5147E+00	4.6274E+00	5.1742E+00
S	1.3817E+00	1.4378E+00	1.4890E+00
Z	1.1013E+00	1.2504E+00	1.3459E+00
GAWE	8.5419E-01	8.8939E-01	9.1163E-01
U	8.8944E-01	2.1537E+00	2.1150E+00
SPECIES ----- MOLE FRACTIONS -----			
E-	4.8657E-09	8.7404E-07	4.2502E-06
HE	4.5650E-02	3.9986E-02	3.7151E-02
HE+	1.0370E-21	3.5927E-16	1.8920E-14
HE++	8.0242E-78	5.7565E-57	2.9125E-50
H	1.8308E-01	4.0356E-01	5.1396E-01
H+	4.8657E-09	8.0434E-07	4.2502E-06
H2	7.7622E-01	5.5945E-01	4.4888E-01

P1 = 2.00E+04 N/50-M, US1 = 1.33E+04 M/SEC			
	MWING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	7.3112E+01	3.6551E+02	5.9198E+02
T	1.0745E+01	1.4523E+01	1.6489E+01
MHL	6.6476E+00	2.3274E+01	3.1645E+01
H	1.3331E+01	2.1703E+01	2.7330E+01
A	3.0351E+00	3.6834E+00	4.0382E+00
S	1.2775E+00	1.3139E+00	1.3533E+00
Z	1.2101E+00	1.0638E+00	1.1345E+00
GAWE	9.7134E-01	8.5419E-01	8.7174E-01
U	8.8944E-01	1.4550E+00	1.7663E+00
SPECIES ----- MOLE FRACTIONS -----			
E-	1.5044E-12	6.2619E-06	6.1650E-08
HE	4.9233E-22	4.6277E-22	4.4372E-22
HE+	1.2651E-27	4.3734E-21	1.2524E-18
HE++	3.7643E-02	1.0265E-74	4.7495E-66
H	9.5634E-12	1.6832E-31	2.3713E-01
H+	2.1351E-01	5.2419E-29	6.1890E-09
H2		8.0434E-01	7.1879E-01

P1 = 2.0CE+C4 M/SO-W, US1 = 1.4OE+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.483LE+02	1.0233E+03	1.5075E+03
T	1.4797E+01	2.0893E+01	2.3484E+01
RHC	8.7865E+00	3.7069E+01	4.5823E+01
M	2.5432E+01	4.3726E+01	5.4C31E+01
A	3.8024E+00	4.9939E+00	5.6460E+00
S	1.4163E+00	1.4115E+00	1.5370E+00
Z	1.1406E+00	1.3213E+00	1.4320E+00
GAME	9.5465E-01	9.6339E-01	9.3190E-01
U	6.6344E+00	2.2840E+00	2.2859E+00

SPECIES	WILE FRACTIONS
E-	1.7495E-08
ME	4.3837E-02
ME+	1.7540E-20
ME++	4.1712E-73
M	2.4652E-01
M+	1.7855E-08
M2	7.0944E-01
	2.5609E-06
	3.7842E-02
	5.1614E-15
	2.2714E-52
	4.8633E-01
	2.5609E-06
	4.7593E-01
	1.3099E-05
	3.4916E-02
	2.5449E-13
	5.2879E-46
	6.0331E-01
	1.3089E-05
	3.6174E-01

P1 = 2.0CE+C4 M/SO-W, US1 = 1.5OE+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7111E+02	1.2199E+02	1.9031E+03
T	1.2676E+01	2.2623E+01	2.6233E+01
RHC	9.2119E+00	3.9222E+01	4.7624E+01
M	2.5241E+01	5.0354E+01	6.2420E+01
A	3.999E+00	5.3925E+00	6.1828E+00
S	1.4525E+00	1.4525E+00	1.5922E+00
Z	1.1849E+00	1.3974E+00	1.5233E+00
GAME	9.5244E-01	9.1990E-01	9.5661E-01
U	1.0385E+00	2.4401E+00	2.4901E+00

SPECIES	WILE FRACTIONS
E-	5.4313E-09
ME	4.2201E-02
ME+	5.6242E-14
ME++	1.3814E-48
M	5.667E-01
M+	7.2346E-06
M2	3.9554E-01
	7.2346E-06
	3.5783E-02
	5.6242E-14
	4.9342E-42
	6.9896E-01
	3.7920E-05
	2.8014E-01

REPRODUCIBILITY
ORIGINAL PAGE IS FROM

P1 = 2.0CE+C4 M/SO-W, US1 = 1.4OE+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.542E+01	7.9344E+02	7.7950E+02
T	1.8184E+01	1.6127E+01	1.8177E+01
RHC	7.2364E+00	2.7161E+01	3.5464E+01
M	1.5971E+01	2.6503E+01	3.3C31E+01
A	3.2527E+00	1.0751E+00	4.3700E+00
S	1.3121E+00	1.3521E+00	1.3934E+00
Z	1.0357E+00	1.1649E+00	1.1903E+00
GAME	8.5416E-01	8.5416E-01	9.4165E-01
U	7.1611E+00	1.0584E+00	1.0593E+00

SPECIES	WILE FRACTIONS
E-	1.3C46E-10
ME	4.8192E-02
ME+	5.313E-16
ME++	1.3749E-67
M	2.2432E-01
M+	4.4159E-08
M2	7.2734E-01
	3.1143E-07
	4.1904E-02
	4.7942E-17
	3.0249E-60
	3.2776E-01
	3.1140E-07
	6.3343E-01

P1 = 2.0CE+C4 M/SO-W, US1 = 1.22LE+C4 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3746E+02	6.2744E+02	1.0045E+03
T	1.2676E+01	1.7509E+01	1.9530E+01
RHC	7.1831E+00	3.3457E+01	3.9724E+01
M	1.9864E+01	3.1745E+01	3.9465E+01
A	3.433E+00	4.294E+00	4.7442E+00
S	1.4525E+00	1.4525E+00	1.4417E+00
Z	1.1849E+00	1.1849E+00	1.2676E+00
GAME	8.5416E-01	8.5416E-01	9.5498E-01
U	8.1217E+00	2.0466E+00	1.9734E+00

SPECIES	WILE FRACTIONS
E-	7.950E-10
ME	4.2164E-02
ME+	1.7810E-17
ME++	1.1147E-61
M	3.1351E-01
M+	2.1351E-07
M2	6.4420E-01
	1.2431E-06
	5.3019E-01
	3.0471E-02
	1.1315E-15
	4.9366E-55
	4.2114E-01
	1.2431E-06
	5.3019E-01

$$P_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1 = 1.60E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.954E+02	1.469E+03	2.272E+03
T	1.654E+01	2.449E+01	2.897E+01
RMC	9.573ME+00	4.064E+01	4.847E+01
M	3.293E+01	5.739E+01	7.157E+01
A	4.205E+00	5.827E+00	6.401E+00
S	1.490E+00	1.569E+00	1.633E+00
Z	1.233E+00	1.476E+00	1.616E+00
GAME	8.605E-01	9.392E-01	9.860E-01
U	1.1120E+01	2.622E+00	2.736E+00

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z	1.403E+00	1.713E+00	1.851E+00
GAME	8.907E-01	1.018E+00	1.301E+00
U	1.331E+01	3.374E+00	3.870E+01

P1 = 2.00E+04 N/SQ-M, US1 = 1.00E+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.773E+02	2.199E+03	3.594E+03
T	1.924E+01	3.157E+01	4.742E+01
RMC	1.627E+01	4.046E+01	4.563E+01
M	4.4E+01	4.081E+01	1.0476E+02
A	4.533E+00	7.423E+00	9.2175E+00
S	1.635E+00	1.695E+00	1.772E+00
Z</			

PI = 2.00E+04 N/SQ-M, USI = 1.70E+04 M/SEC

MOVING SHOCK 2.2126E+02
STANDING SHOCK 1.7083E+03
REFLECTED SHOCK 2.6767E+03
P 2.2126E+02
T 1.7423E+01
RHO 2.6537E+01
M 4.1315E+01
A 6.4839E+01
S 6.3065E+00
Z 1.5281E+00
GAME 1.2844E+00
U 1.1965E+01

SPECIES
E- 3.4675E-07
ME 3.8048E-02
ME+ 1.3284E-17
ME++ 2.5844E-62
M+ 4.4536E-01
M+ 7.1622E-01
M2 5.1504E-01

PI = 2.00E+04 N/SQ-M, USI = 2.00E+04 M/SEC

MOVING SHOCK 3.0751E+02
STANDING SHOCK 2.4170E+01
REFLECTED SHOCK 4.0676E+03
P 3.0751E+02
T 2.0217E+01
RHO 1.3374E+01
M 5.0987E+01
A 5.1657E+00
S 1.6447E+00
Z 1.9661E+00
GAME 9.0151E-01
U 1.4334E+01

SPECIES
E- 3.3755E-06
ME 2.4144E-02
ME+ 2.3495E-15
ME++ 4.7408E-54
M+ 6.3594E-01
M+ 3.3755E-06
M2 3.3755E-06

PI = 2.00E+04 N/SQ-M, USI = 1.90E+04 M/SEC

MOVING SHOCK 2.4855E+02
STANDING SHOCK 1.9495E+03
REFLECTED SHOCK 3.1141E+03
P 2.4855E+02
T 1.8315E+01
RHO 1.6104E+01
M 4.1254E+01
A 7.2644E+01
S 6.8358E+00
Z 1.6544E+00
GAME 1.6312E+00
U 6.8141E-01

SPECIES
E- 7.7456E-07
ME 3.7227E-02
ME+ 8.1141E-17
ME++ 1.0517E-59
M+ 5.1096E-01
M+ 7.7456E-07
M2 4.5187E-01

PI = 2.00E+04 N/SQ-M, USI = 2.10E+04 M/SEC

MOVING SHOCK 3.2501E+02
STANDING SHOCK 2.4170E+01
REFLECTED SHOCK 4.0676E+03
P 3.2501E+02
T 2.1271E+01
RHO 1.3374E+01
M 5.0987E+01
A 5.1657E+00
S 1.6447E+00
Z 1.9661E+00
GAME 9.0151E-01
U 1.4334E+01

SPECIES
E- 6.7941E-06
ME 3.2501E-02
ME+ 1.1441E-14
ME++ 2.3495E-54
M+ 6.3594E-01
M+ 3.3755E-06
M2 3.3755E-06

Table III. - Continued

 $P_1 = 20 \text{ kN/m}^2$

P1 = 2.00E+04 N/SQ-M, US1 = 2.20E+04 M/SEC					P1 = 2.00E+04 N/SQ-M, US1 = 2.50E+04 M/SEC				
SPECIES	MOLE FRACTIONS		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	

E-	1.3595E-05	3.1799E-03	3.7188E+02	2.8233E+03	5.0042E+03	4.7707E+02	3.2938E+02	6.1066E+03	
ME	3.1294E-02	2.6668E-02	2.2432E+01	4.2833E+01	6.1319E+01	2.7154E+01	5.6533E+01	7.6575E+01	
ME+	5.9462E-14	9.4592E-04	1.0376E+01	3.5159E+01	4.1612E+01	9.8230E+00	2.9809E+01	3.8695E+01	
ME++	1.0570E-48	1.3502E-25	6.1482E+01	1.0699E+02	1.4444E+02	7.9017E+01	1.3572E+02	1.8590E+02	
H	7.4919E-01	9.2372E-01	5.7734E+00	9.3298E+00	1.1132E+01	6.9857E+00	1.0700E+01	1.2532E+01	
M+	1.3585E-05	3.1788E-03	1.7230E+00	1.8079E+00	1.9455E+00	1.8363E+00	1.9027E+00	1.9779E+00	
M2	2.2048E-01	4.3254E-02	1.5977E+00	1.8749E+00	1.9612E+00	1.7885E+00	1.9545E+00	2.0609E+00	
			9.3001E-01	1.0839E+00	1.3305E+00	1.0049E+00	1.3362E+00	9.9520E-01	
			1.5438E+01	4.5545E+00	5.1274E+00	1.7438E+01	5.7445E+00	5.9330E+00	
SPECIES					MOLE FRACTIONS				
-----					-----				
E-						1.9279E-04		6.2957E-02	
ME						2.7956E-02		2.4126E-02	
ME+						1.1512E-11		1.3502E-04	
ME++						4.0844E-40		5.4226E-14	
H						8.8140E-01		9.402E-01	
M+						1.8274E-02		6.2822E-02	
M2						1.5970E-02		9.1365E-02	

SPECIES		MOLE FRACTIONS	
-----		-----	
E-	1.2566E-04	1.9279E-C2	6.2957E-02
ME	2.7956E-C2	2.5577E-C2	2.4126E-02
ME+	1.1512E-11	5.2539E-06	1.3502E-04
ME++	4.0844E-40	3.6993E-19	5.4226E-14
H	8.8140E-01	9.2190E-01	9.4092E-01
M+	1.2566E-04	1.8274E-C2	6.2822E-02
M2	9.0395E-02	1.5970E-02	9.1365E-03

P1 = 2.00E+04 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.137E+02	3.407E+02	6.335E+03
T	1.945E+01	6.076E+01	9.690E+01
RHC	9.475E+00	2.833E+01	3.738E+01
M	9.531E+01	1.459E+02	1.994E+02
A	7.515E+00	1.106E+01	1.295E+01
S	1.871E+03	1.932E+03	2.037E+00
Z	1.840E+00	1.578E+00	2.097E+00
GAPE	1.041E+00	1.619E+00	9.999E-01
U	1.804E+01	6.037E+00	6.131E+00

SPECIES	MOLE FRACTIONS
E-	2.904E-04
HE	2.717E-02
ME+	8.624E-11
HE++	6.935E-37
H	9.122E-01
M+	2.931E-04
M2	6.034E-02

P1 = 2.00E+04 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.517E+02	3.495E+03	6.497E+03
T	3.233E+01	6.472E+01	8.466E+01
RHC	9.066E+00	2.694E+01	3.599E+01
M	9.193E+01	1.563E+02	2.138E+02
A	9.087E+00	1.423E+01	1.335E+01
S	1.934E+03	1.961E+03	2.036E+03
Z	1.887E+00	2.034E+00	2.134E+00
GAPE	1.076E+00	1.035E+00	9.924E-01
U	1.865E+01	6.275E+00	6.337E+00

SPECIES	MOLE FRACTIONS
E-	7.031E-04
HE	2.491E-02
ME+	2.791E-05
HE++	1.525E-33
H	5.347E-01
M+	3.739E-02
M2	3.759E-02

P1 = 2.00E+04 N/SQ-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.059E+02	2.999E+02	5.428E+03
T	2.374E+01	4.742E+01	6.683E+01
RHC	1.027E+01	3.319E+01	4.073E+01
M	6.709E+01	1.162E+02	1.580E+02
A	6.125E+00	9.856E+00	1.162E+01
S	1.761E+00	1.840E+03	1.913E+00
Z	1.664E+00	1.905E+00	1.952E+00
GAPE	9.492E-01	1.375E+00	1.014E+00
U	1.612E+01	6.986E+00	5.432E+00

SPECIES	MOLE FRACTIONS
E-	6.352E-03
HE	2.624E-02
ME+	4.335E-07
HE++	4.972E-23
H	9.313E-01
M+	6.351E-03
M2	2.972E-02

P1 = 2.00E+04 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.410E+02	3.155E+03	5.797E+03
T	2.528E+01	5.205E+01	7.194E+01
RHC	1.038E+01	3.140E+01	3.979E+01
M	7.293E+01	1.258E+02	1.719E+02
A	6.524E+00	1.033E+01	1.269E+01
S	1.795E+03	1.872E+03	1.947E+00
Z	1.728E+00	1.939E+00	2.026E+00
GAPE	9.737E-01	1.056E+00	1.029E+00
U	1.675E+01	5.397E+00	5.708E+00

SPECIES	MOLE FRACTIONS
E-	5.745E-03
HE	1.135E-02
ME+	2.589E-02
HE++	1.707E-06
H	6.650E-01
M+	9.307E-01
M2	1.135E-02

Table III. - Continued

$$p_1 = 20 \text{ kN/m}^2$$

P1 = 2.0CE+C4 N/SQ-M, US1 = 2.80E+C4 M/SEC				P1 = 2.0CE+C4 N/SQ-M, US1 = 2.20E+C4 M/SEC			
SPECIES ----- MOLE FRACTIONS -----				SPECIES ----- MOLE FRACTIONS -----			
MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	
P	5.885E+C2	3.571E+03	6.592E+03	P	7.555E+02	4.107E+03	7.392E+03
T	3.570E+C1	6.842E+01	8.825E+01	T	5.318E+01	8.219E+01	1.023E+02
RHC	8.644E+C0	2.568E+C1	3.438E+01	RHC	7.624E+C1	2.313E+C1	3.095E+01
H	9.852E+01	1.671E+02	2.278E+02	H	1.279E+02	2.148E+02	2.893E+02
A	8.630E+00	1.176E+C1	1.373E+01	A	1.003E+C1	1.316E+01	1.533E+01
S	1.635E+00	1.732E+00	2.005E+00	S	2.039E+00	2.095E+00	2.175E+00
Z	1.909E+00	2.332E+00	2.172E+00	Z	1.974E+00	2.159E+00	2.340E+00
GAPE	1.093E+00	9.948E-01	9.837E-01	GAPE	1.015E+00	9.763E-01	9.820E-01
U	1.922E+01	6.468E+C0	6.458E+00	U	2.159E+01	7.112E+00	7.079E+00
C-	1.053E-03	4.841E-02	1.079E-01	F-	1.841E-02	1.014E-01	1.697E-01
HE	2.625E-02	2.455E-02	2.751E-02	HE	2.531E-02	2.282E-02	1.982E-02
HE+	5.765E-09	5.260E-05	4.978E-04	HE+	1.995E-06	3.277E-04	1.540E-03
HE++	2.959E-30	1.341E-15	5.944E-12	HE++	4.065E-21	5.479E-13	3.967E-10
H	9.401E-01	8.705E-01	7.561E-01	H	5.313E-01	7.731E-01	6.374E-01
H+	1.659E-03	4.936E-02	1.374E-01	H+	1.845E-02	1.013E-01	1.683E-01
H2	2.364E-02	8.055E-03	5.396E-03	H2	5.921E-03	4.220E-03	2.977E-03

P1 = 2.00E+04 N/50-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.0041E+02	4.564E+03	8.1535E+03
T	5.6431E+01	4.8951E+01	1.0987E+02
RMC	7.4863E+00	2.7975E+01	3.3506E+01
H	1.4421E+02	2.4206E+02	3.2694E+02
A	1.0372E+01	1.3917E+01	1.6225E+01
S	2.0950E+00	2.1429E+00	2.2626E+00
Z	2.0125E+00	2.2339E+00	2.4327E+00
GAME	9.8491E-01	9.7474E-01	9.9499E-01
U	2.2477E+01	7.4523E+00	7.4461E+00

SPECIES	MOLE FRACTIONS
E-	3.519E-02
HE	2.483E-02
HE+	9.314E-06
HE++	1.312E-16
H	9.0041E-01
H+	3.519E-02
H2	3.9621E-03

P1 = 2.00E+04 N/50-M, US1 = 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.5293E+02	5.1215E+03	9.0946E+03
T	6.2027E+01	9.5727E+01	1.1776E+02
RMC	7.4626E+00	2.3124E+01	3.0529E+01
H	1.3156E+02	2.7160E+02	3.6367E+02
A	1.1107E+01	1.4608E+01	1.7171E+01
S	2.1249E+00	2.1893E+00	2.2575E+00
Z	2.0595E+00	2.3132E+00	2.5297E+00
GAME	5.8624E-01	9.7562E-01	9.8977E-01
U	2.4212E+01	7.9466E+00	7.8328E+00

SPECIES	MOLE FRACTIONS
E-	5.5595E-02
HE	2.4238E-02
HE+	3.1630E-05
HE++	8.6551E-17
H	8.6551E-17
H+	5.5595E-02
H2	2.5059E-03

P1 = 2.00E+04 N/50-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.2759E+02	3.6592E+03	6.7066E+03
T	3.9397E+01	7.1961E+01	9.1714E+01
RMC	9.2654E+00	2.4662E+01	3.3051E+01
H	1.0353E+02	1.7833E+02	2.4221E+02
A	9.0934E+00	1.2133E+01	1.4117E+01
S	1.9644E+00	2.0179E+00	2.0944E+00
Z	1.9276E+00	2.0613E+00	2.2125E+00
GAME	1.0866E+00	9.8747E-01	9.8217E-01
U	1.9795E+01	6.6357E+00	6.6355E+00

SPECIES	MOLE FRACTIONS
E-	3.6178E-03
HE	2.5945E-02
HE+	9.0536E-05
HE++	2.8759E-27
H	9.5156E-01
H+	3.6178E-03
H2	1.5202E-02

P1 = 2.00E+04 N/50-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.6851E+02	3.774E	6.8700E+03
T	4.3134E+01	7.540E	9.5142E+01
RMC	7.5762E+00	2.392E	3.2346E+01
H	1.1274E+02	1.4994E+02	2.5717E+02
A	9.4451E+00	1.2459E+01	1.4305E+01
S	1.9911E+00	2.3646E+00	2.1210E+00
Z	1.9332E+00	2.3924E+00	2.2511E+00
GAME	1.064E+00	9.8216E-01	9.8144E-01
U	2.0377E+01	6.7603E+00	6.7555E+00

SPECIES	MOLE FRACTIONS
E-	6.677E-03
HE	2.571E-02
HE+	1.4631E-07
HE++	9.173E-25
H	5.694E-01
H+	6.677E-03
H2	1.0475E-02

Table III. - Continued

$$P_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1 = 3.00E+04 M/SEC				P1 = 2.00E+04 N/SQ-M, US1 = 4.00E+04 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	H	P	T	RHO	H
1.0622E+03	5.7492E+03	1.0102E+04	1.0102E+04	1.4295E+03	7.9597E+03	1.4127E+04	1.4127E+04
6.715E+01	1.2252E+02	1.2599E+02	1.2599E+02	8.1005E+01	1.2334E+02	1.5381E+02	1.5381E+02
7.4955E+00	2.3402E+01	3.0737E+01	3.0737E+01	7.6946E+00	2.4240E+01	3.1179E+01	3.1179E+01
1.795E+02	3.0269E+02	4.0503E+02	4.0503E+02	2.4107E+02	4.0734E+02	5.4710E+02	5.4710E+02
1.1644E+01	1.5501E+01	1.9170E+01	1.9170E+01	1.3297E+01	1.9060E+01	2.1506E+01	2.1506E+01
2.1690E+00	2.2340E+00	2.3240E+00	2.3240E+00	2.2907E+00	2.3654E+00	2.4601E+00	2.4601E+00
2.1103E+03	2.3965E+00	2.6294E+03	2.6294E+03	2.2934E+00	2.6622E+00	2.9459E+00	2.9459E+00
9.573E-01	9.7911E-01	9.9664E-01	9.9664E-01	9.5175E-01	9.9328E-01	1.0283E+00	1.0283E+00
2.5574E+01	9.1863E+00	9.2579E+00	9.2579E+00	2.5736E+01	9.4296E+00	9.7429E+00	9.7429E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	7.9155E-02	1.9837E-01	2.5977E-01	E-	1.5092E-01	2.6858E-01	3.3863E-01
HE	2.3616E-02	1.9110E-02	1.4591E-02	HE	2.1320E-02	1.4330E-02	9.8018E-03
HE+	7.7335E-03	1.7539E-03	4.4241E-03	HE+	4.8165E-04	4.4516E-03	7.1701E-03
HE++	2.1629E-15	5.4335E-17	4.3015E-08	HE++	1.7831E-12	3.5533E-08	1.3035E-06
H	8.1775E-01	6.0210E-01	4.6449E-01	H	6.7566E-01	4.4747E-01	3.1234E-01
H+	7.8119E-02	1.9661E-01	2.5335E-01	H+	1.5044E-01	2.6413E-01	3.3146E-01
H2	2.2436E-03	2.0379E-03	1.3603E-03	H2	1.1771E-03	1.0460E-03	5.9075E-04

P1 = 2.00E+04 N/50-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5643E+03	8.7750E+03	1.5635E+04
T	9.5357E+01	1.3059E+02	1.6435E+02
RMC	7.7606E+00	2.404F+01	3.1175E+01
H	2.6347E+02	4.4559E+02	6.0025E+02
A	1.3962E+01	1.8972E+01	2.2854E+01
S	2.3304E+00	2.4091E+00	2.5150E+00
Z	2.3615E+00	2.7538E+00	3.0316E+00
GAME	9.5332E-01	1.0013E+00	1.0414E+00
U	3.1123E+01	9.8888E+00	1.0310E+01

SPECIES	MOLE FRACTIONS
E-	1.7520E-01
HE	2.0422E-02
HE+	7.509E-04
HE++	9.3818E-12
H	6.2821E-01
H+	1.7445E-01
H2	9.6525E-04
	2.9272E-01
	1.2754E-02
	5.421E-03
	1.0646E-07
	4.3099E-01
	2.8731E-01
	8.2471E-04
	3.6142E-01
	8.6137E-03
	7.7678E-03
	3.3927E-06
	2.6813E-01
	3.5364E-01
	4.2876E-04

P1 = 2.00E+04 N/50-M, US1 = 4.83E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7051E+03	9.6175E+03	1.7231E+04
T	9.5656E+01	1.3799E+02	1.7590E+02
RMC	7.8154E+00	2.4498E+01	3.1059E+01
H	2.8636E+02	4.9540E+02	6.5649E+02
A	1.4436E+01	1.9910E+01	2.4196E+01
S	2.3700E+00	2.4510E+00	2.5614E+00
Z	2.4321E+00	2.8451E+00	3.1560E+00
GAME	5.551E-01	1.0399E+00	1.0552E+00
U	3.2504E+01	1.0375E+01	1.0525E+01

SPECIES	MOLE FRACTIONS
E-	1.9903E-01
HE	1.9419E-02
HE+	1.1050E-03
HE++	4.1270E-11
H	5.8170E-01
H+	1.9792E-01
H2	7.9270E-04
	3.1525E-01
	1.1307E-02
	6.2670E-03
	2.9543E-07
	3.5755E-01
	2.2725E-01
	3.7619E-01
	3.0297E-04

P1 = 2.00E+04 N/50-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1781E+03	6.4392E+03	1.1391E+04
T	7.1460E+01	1.0926E+02	1.3676E+02
RMC	7.5544E+00	2.3714E+01	3.0518E+01
H	1.9424E+02	4.4947E+02	6.0025E+02
A	1.2150E+01	1.6328E+01	1.9248E+01
S	2.2134E+00	2.2754E+00	2.3729E+00
Z	2.1674E+00	2.7340E+00	2.7340E+00
GAME	9.5277E-01	9.9191E-01	1.0056E+00
U	2.6951E+01	3.5794E+00	8.7148E+00

SPECIES	MOLE FRACTIONS
E-	1.0233E-01
HE	2.2512E-02
HE+	1.5899E-04
HE++	3.0013E-14
H	7.7125E-01
H+	1.0197E-01
H2	1.7837E-03
	2.1629E-01
	1.7578E-02
	1.2810E-02
	5.4775E-03
	1.5089E-07
	4.1050E-01
	2.8234E-01
	1.0542E-03

P1 = 2.00E+04 N/50-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.3300E+03	7.1785E+03	1.2708E+04
T	7.6554E+01	1.1629E+02	1.4397E+02
RMC	7.6244E+00	2.4203E+01	3.1088E+01
H	2.1907E+02	3.7373E+02	4.9679E+02
A	1.2740E+01	1.7160E+01	2.3820E+01
S	2.2537E+00	2.2211E+00	2.4207E+00
Z	2.2238E+00	2.2718E+00	2.8394E+00
GAME	9.5130E-01	9.6931E-01	1.0163E+00
U	2.9330E+01	3.9942E+00	9.2062E+00

SPECIES	MOLE FRACTIONS
E-	1.2642E-01
HE	2.2149E-02
HE+	2.8844E-04
HE++	2.6944E-13
H	7.2357E-01
H+	1.2613E-01
H2	1.4422E-03
	2.3304E-01
	1.5942E-02
	3.4804E-03
	1.3432E-04
	4.8450E-07
	3.5994E-01
	3.0762E-01
	7.5674E-04

$$p_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1 = 5.00E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9517E+03	1.0481E+04	1.8911E+04
T	9.3936E+01	1.4578E+02	1.8811E+02
W	7.5652E+00	2.4474E+01	3.0884E+01
M	3.1125E+02	5.2674E+02	7.1584E+02
H	1.5020E+01	2.0497E+01	2.5587E+01
A	2.4053E+00	2.4922E+00	2.6063E+00
S	2.5031E+00	2.9377E+00	3.2552E+00
Z	9.5871E-01	1.0197E+00	1.0692E+00
GAME	3.3895E+01	1.0999E+01	1.1597E+01
U			

P1 = 2.00E+04 N/SQ-M, US1 = 5.00E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3263E+03	1.3124E+04	2.4421E+04
T	1.0693E+02	1.7124E+02	2.3362E+02
W	7.5521E+00	2.3923E+01	2.9691E+01
M	3.5031E+02	6.0327E+02	9.1356E+02
H	1.6848E+01	2.4040E+01	3.0214E+01
A	2.5226E+00	2.6139E+00	2.7389E+00
S	2.7339E+00	3.2237E+00	3.5237E+00
Z	9.7093E-01	1.0536E+00	1.1390E+00
GAME	3.8524E+01	1.2544E+01	1.3913E+01
U			

P1 = 2.00E+04 N/SQ-M, US1 = 5.00E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3263E+03	1.3124E+04	2.4421E+04
T	1.0693E+02	1.7124E+02	2.3362E+02
W	7.5521E+00	2.3923E+01	2.9691E+01
M	3.5031E+02	6.0327E+02	9.1356E+02
H	1.6848E+01	2.4040E+01	3.0214E+01
A	2.5226E+00	2.6139E+00	2.7389E+00
S	2.7339E+00	3.2237E+00	3.5237E+00
Z	9.7093E-01	1.0536E+00	1.1390E+00
GAME	3.8524E+01	1.2544E+01	1.3913E+01
U			

P1 = 2.00E+04 N/SQ-M, US1 = 5.00E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3263E+03	1.3124E+04	2.4421E+04
T	1.0693E+02	1.7124E+02	2.3362E+02
W	7.5521E+00	2.3923E+01	2.9691E+01
M	3.5031E+02	6.0327E+02	9.1356E+02
H	1.6848E+01	2.4040E+01	3.0214E+01
A	2.5226E+00	2.6139E+00	2.7389E+00
S	2.7339E+00	3.2237E+00	3.5237E+00
Z	9.7093E-01	1.0536E+00	1.1390E+00
GAME	3.8524E+01	1.2544E+01	1.3913E+01
U			

P1 = 2.00E+04 N/SQ-M, US1 = 5.00E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3263E+03	1.3124E+04	2.4421E+04
T	1.0693E+02	1.7124E+02	2.3362E+02
W	7.5521E+00	2.3923E+01	2.9691E+01
M	3.5031E+02	6.0327E+02	9.1356E+02
H	1.6848E+01	2.4040E+01	3.0214E+01
A	2.5226E+00	2.6139E+00	2.7389E+00
S	2.7339E+00	3.2237E+00	3.5237E+00
Z	9.7093E-01	1.0536E+00	1.1390E+00
GAME	3.8524E+01	1.2544E+01	1.3913E+01
U			

P1 = 2.00E+04 N/SQ-M, US1 = 5.00E+04 W/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3263E+03	1.3124E+04	2.4421E+04
T	1.0693E+02	1.7124E+02	2.3362E+02
W	7.5521E+00	2.3923E+01	2.9691E+01
M	3.5031E+02	6.0327E+02	9.1356E+02
H	1.6848E+01	2.4040E+01	3.0214E+01
A	2.5226E+00	2.6139E+00	2.7389E+00
S	2.7339E+00	3.2237E+00	3.5237E+00
Z	9.7093E-01	1.0536E+00	1.1390E+00
GAME			

P1 = 2.00E+04 N/SQ-M, US1 = 5.20E+04 M/SEC

MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
P 2.0042E+03 1.1359E+04 2.0680E+04
T 9.8225E+01 1.5385E+02 2.0195E+02
RMC 7.9090E+00 2.4377E+01 3.0547E+01
H 3.3662E+02 5.6956E+02 7.7975E+02
A 1.5615E+01 2.1912E+01 2.7085E+01
S 2.4495E+00 3.0286E+00 3.6522E+00
Z 2.5799E+00 3.0286E+00 3.6522E+00
GAPE 9.6224E-01 1.0304E+00 1.0937E+00
U 3.5277E+01 1.1435E+01 1.2323E+01

SPECIES MOLE FRACTIONS
E- 2.4469E-01 3.5651E-01 4.1843E-01
HE 1.7257E-02 9.8479E-03 6.0167E-03
ME+ 2.1233E-03 7.6599E-03 8.8533E-03
H+ 5.3251E-10 1.6529E-06 4.5627E-05
M 4.9284E-01 2.7777E-01 1.5703E-01
M+ 2.4256E-01 3.4884E-01 4.0948E-01
M2 5.3226E-04 3.7544E-04 1.3934E-04

P1 = 2.00E+04 N/SQ-M, US1 = 5.20E+04 M/SEC

MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
P 2.4956E+03 1.4600E+04 2.4956E+04
T 1.1148E+02 1.9364E+02 2.5107E+02
RMC 7.9637E+00 2.5090E+01 2.9107E+01
H 4.1861E+02 7.0617E+02 9.8669E+02
A 1.7451E+01 2.5146E+01 3.1225E+01
S 2.5651E+00 2.6652E+00 2.7407E+00
Z 4.8123E+00 2.9859E+00 3.5513E+00
GAPE 9.7622E-01 1.0651E+00 1.1198E+00
U 3.5380E+01 1.3745E+01 1.4780E+01

SPECIES MOLE FRACTIONS
E- 3.0699E-01 4.0671E-01 4.6706E-01
HE 1.3448E-02 2.0209E-02 2.1221E-02
ME+ 4.3302E-03 9.9040E-03 7.3455E-03
H+ 1.2304E-03 1.5493E-03 4.2091E-04
M 3.7207E-01 1.9161E-01 8.2109E-02
M+ 3.0255E-01 6.9777E-01 4.6074E-01
M2 2.9279E-04 1.4935E-04 3.5279E-05

P1 = 2.00E+04 N/SQ-M, US1 = 6.03E+04 M/SEC

MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
P 2.1624E+03 1.2243E+04 2.2512E+04
T 1.6255E+02 1.6233E+02 2.1699E+02
RMC 7.5383E+00 2.4192E+01 3.0155E+01
H 3.6297E+02 5.1377E+02 5.4456E+02
A 1.6224E+01 2.2961E+01 2.8624E+01
S 2.4876E+00 2.5739E+00 2.6959E+00
Z 2.6562E+00 3.1176E+00 3.4664E+00
GAPE 9.6635E-01 1.0417E+00 1.0975E+00
U 3.6653E+01 1.2017E+01 1.3383E+01

SPECIES MOLE FRACTIONS
E- 2.6631E-01 3.7480E-01 4.3332E-01
HE 1.6043E-02 7.8636E-03 5.3518E-03
ME+ 2.7804E-03 8.1707E-03 9.0790E-03
H+ 1.6335E-07 3.6322E-06 1.6176E-04
M 4.5089E-01 2.8222E-01 1.2802E-01
M+ 2.6353E-01 3.6663E-01 4.2404E-01
M2 4.3369E-04 2.8001E-04 5.0580E-05

P1 = 2.00E+04 N/SQ-M, US1 = 6.03E+04 M/SEC

MOVING SHOCK STANDING SHOCK REFLECTED SHOCK
P 2.6704E+03 1.4964E+04 2.8390E+04
T 1.1603E+02 1.9094E+02 2.7172E+02
RMC 7.5552E+00 2.3140E+01 2.9620E+01
H 4.6752E+02 7.6439E+02 1.0822E+03
A 1.8154E+01 2.6309E+01 3.6311E+01
S 2.6013E+00 2.6013E+00 2.8210E+00
Z 2.8911E+00 3.4659E+00 3.5517E+00
GAPE 9.6775E-01 1.0775E+00 1.1264E+00
U 4.0761E+01 1.4301E+01 1.5676E+01

SPECIES MOLE FRACTIONS
E- 3.2377E-01 4.2075E-01 4.6602E-01
HE 1.2365E-02 3.6706E-02 3.4915E-03
ME+ 5.1191E-03 9.1974E-03 8.2071E-03
H+ 2.5987E-05 3.1377E-05 9.0371E-04
M 3.5612E-01 1.5277E-01 6.5343E-02
M+ 3.2059E-01 4.1151E-01 4.452E-01
M2 2.2529E-04 1.3471E-04 2.1877E-05

Table III. - Continued

$$D_1 = 20 \text{ kN/m}^2$$

P1 = 2.00E+04 N/SQ-M, US1 = 6.26E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.8503E+03	1.5703E+04	3.0419E+04
T	1.2086E+02	2.5139E+02	2.9293E+02
RHO	7.9372E+00	2.2692E+01	2.8044E+01
M	4.7817E+02	8.0327E+02	1.1410E+03
A	1.8949E+01	2.7460E+01	3.5015E+01
S	2.6422E+00	2.7287E+00	2.8600E+00
Z	2.5713E+00	3.4376E+00	3.7030E+00
GAME	9.8924E-01	1.0892E+00	1.1303E+00
U	4.2094E+01	1.4722E+01	1.5609E+01
P1 = 2.00E+04 N/SQ-M, US1 = 6.90E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.4211E+03	1.9065E+04	3.6600E+04
T	1.3652E+02	2.3775E+02	3.6433E+02
RHO	7.8196E+00	2.1055E+01	2.6342E+01
M	5.7471E+02	9.5690E+02	1.3933E+03
A	2.1079E+01	3.1020E+01	3.9891E+01
S	2.7536E+00	2.8353E+00	2.9483E+00
Z	3.2045E+00	3.6174E+00	3.8136E+00
GAME	1.0154E+00	1.1198E+00	1.1453E+00
U	4.6555E+01	1.7139E+01	1.9462E+01
SPECIES ----- MOLE FRACTIONS -----			
E-	3.9156E-01	4.6096E-01	4.4867E-01
HE	7.2324E-03	3.6179E-03	1.1298E-03
HE+	8.3699E-03	9.8305E-03	6.5722E-03
HE++	7.1337E-07	3.7393E-04	5.4091E-03
H	2.0956E-01	7.4822E-02	2.6929E-02
H+	3.9319E-01	4.5038E-01	4.7128E-01
H2	8.0444E-05	2.1806E-05	3.3765E-06

P1 = 2.00E+04 N/50-H, US1 = 6.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0357E+03	1.6542E+04	3.2502E+04
T	1.2379E+02	2.1277E+02	3.1558E+02
RHC	7.9142E+00	2.2189E+01	2.7491E+01
M	5.0940E+02	9.5368E+02	1.2226E+03
A	1.9356E+01	2.8641E+01	3.6608E+01
S	2.6795E+00	2.7648E+00	2.9975E+00
Z	3.0493E+00	3.5038E+00	3.7464E+00
GAME	9.9704E-01	1.1034E+00	1.1336E+00
U	4.3422E+01	1.5473E+01	1.7554E+01

SPECIES

MOLE FRACTIONS

E-	3.4065E-01	4.4351E-01	4.7951E-01
FE	9.5169E-03	4.5615E-03	2.2158E-03
HE+	6.8901E-03	9.5959E-03	9.4391E-03
HE++	1.5702E-07	1.1252E-04	2.7303E-03
H	2.6904E-01	1.0849E-01	4.1455E-02
H+	3.5377E-01	4.3369E-01	4.6568E-01
H2	1.3850E-04	4.9199E-05	9.3762E-06

P1 = 2.00E+04 N/50-H, US1 = 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.6200E+03	1.8785E+04	3.8626E+04
T	1.4238E+02	2.5125E+02	3.9121E+02
RHC	7.7537E+00	2.0407E+01	2.5710E+01
M	6.0979E+02	1.0101E+03	1.4829E+03
A	2.1851E+01	3.2179E+01	4.1630E+01
S	2.7902E+00	2.8687E+00	3.7025E+00
Z	3.2796E+00	3.6636E+00	3.8394E+00
GAME	1.0263E+00	1.1249E+00	1.1534E+00
U	4.7355E+01	1.7977E+01	2.0454E+01

SPECIES

MOLE FRACTIONS

E-	4.0549E-01	4.6775E-01	4.5211E-01
FE	9.2510E-03	3.1759E-03	7.4171E-04
HE+	9.9911E-03	5.8254E-03	5.5224E-03
HE++	1.4646E-06	6.4637E-04	6.7597E-03
H	1.8272E-01	6.1944E-02	2.1797E-02
H+	3.9645E-01	4.5664E-01	4.7307E-01
H2	5.5729E-05	1.4415E-05	2.1589E-06

P1 = 2.00E+04 N/50-H, US1 = 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.2255E+03	1.7318E+04	3.4549E+04
T	1.3101E+02	2.2401E+02	3.3912E+02
RHC	7.8731E+00	2.1604E+01	2.6933E+01
M	5.4159E+02	9.0477E+02	1.3063E+03
A	2.0301E+01	2.9936E+01	3.8211E+01
S	2.7169E+00	2.3007E+00	2.9332E+00
Z	3.1275E+00	3.5642E+00	3.7826E+00
GAME	1.0058E+00	1.1105E+00	1.1382E+00
U	4.4745E+01	1.6299E+01	1.8483E+01

SPECIES

MOLE FRACTIONS

E-	3.7661E-01	4.5252E-01	4.8449E-01
FE	8.3240E-03	4.0764E-03	1.6320E-03
HE+	7.6419E-03	9.7639E-03	7.5895E-03
HE++	3.3962E-07	2.3424E-04	3.9968E-03
H	2.3834E-01	9.0257E-02	3.3378E-02
H+	3.6055E-01	4.4276E-01	4.6891E-01
H2	1.5641E-04	3.2889E-05	5.3076E-06

Table III. - Continued

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 4.00E+03 M/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 7.00E+03 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	MHC	H	P	T	MHC	H
1.1124E+01	2.307E+01	5.6542E+01	4.9523E+00	3.4827E+01	1.4366E+02	2.3663E+02	1.1573E+01
2.9249E+00	3.5090E+00	4.9523E+00	1.1417E+01	6.4771E+00	7.1950E+00	1.3434E+01	2.0196E+01
3.9378E+00	6.5923E+00	5.1957E+00	2.1883E+00	5.3766E+00	1.6437E+01	1.4036E+01	3.2290E+00
2.8981E+00	3.6101E+00	1.4631E+00	1.0746E+00	6.9664E+00	2.9059E+00	1.2030E+00	1.0124E+00
1.6757E+00	1.4631E+00	1.0746E+00	1.0000E+00	2.4756E+00	1.0001E+00	9.4917E-01	1.7731E+00
1.0723E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.1998E+00	1.0001E+00	9.4917E-01	1.7731E+00
1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0001E+00	1.0001E+00	9.4917E-01	1.7731E+00
9.9407E-01	9.8639E-01	9.6697E-01	1.2214E+00	4.2522E+00	1.7731E+00	1.6064E+00	
2.3176E+00	1.3854E+00						
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	5.4860E-68	2.2996E-49	2.7646E-33	E-	1.2910E-20	1.8082E-14	1.5260E-11
FE	5.0000E-02	5.0000E-02	5.0000E-02	FE	4.9977E-02	4.9892E-02	4.9384E-02
HE+	8.8356E-72	7.8242E-61	1.7931E-51	HE+	1.9442E-44	1.9989E-32	6.0030E-26
ME++	0.	0.	0.	ME++	0.	0.	0.
H	4.3572E-12	5.8202E-10	1.3616E-06	H	1.2750E-04	4.3248E-03	2.4547E-02
H+	6.3463E-20	6.3463E-20	6.3463E-20	H+	7.6367E-20	1.8082E-14	1.5260E-11
H2	5.5000E-01	5.5000E-01	5.5000E-01	H2	9.4998E-01	9.4578E-01	9.2607E-01

P1 = 5.03E+04 N/50-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.752E+01	4.658E+01	1.022E+02
T	3.873E+00	5.161E+00	7.046E+00
RMC	4.526E+00	9.022E+00	1.453E+01
M	3.599E+00	5.432E+00	7.652E+00
A	1.005E+00	2.251E+00	2.572E+00
S	1.112E+00	1.118E+00	1.145E+00
Z	1.000E+00	1.000E+00	1.001E+00
GAME	9.815E-01	9.643E-01	9.438E-01
U	3.025E+00	1.516E+00	1.373E+00

SPECIES	MOLE FRACTIONS
E-	7.397E-46
FE	5.000E-02
HE+	2.747E-55
HE++	0.
H	1.592E-04
H+	6.346E-20
H2	5.500E-01

P1 = 5.00E+04 N/50-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.540E+01	7.560E+01	1.620E+02
T	5.055E+00	7.078E+00	9.362E+00
RMC	4.585E+00	1.124E+01	1.731E+01
M	5.358E+00	7.691E+00	1.610E+01
A	2.217E+00	2.584E+00	2.932E+00
S	1.152E+00	1.161E+00	1.191E+00
Z	1.000E+00	1.000E+00	1.002E+00
GAME	5.651E-01	9.432E-01	9.169E-01
U	3.725E+00	1.601E+00	1.577E+00

SPECIES	MOLE FRACTIONS
E-	1.715E-31
FE	5.000E-02
HE+	9.674E-51
HE++	0.
H	3.445E-06
H+	6.346E-20
H2	9.304E-01

P1 = 5.00E+04 N/50-M, US1 = 3.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.581E+01	1.816E+02	3.275E+02
T	7.979E+00	1.124E+01	1.359E+01
RMC	5.737E+00	1.550E+01	2.327E+01
M	9.927E+00	1.361E+01	1.793E+01
A	2.725E+00	3.187E+00	3.512E+00
S	1.225E+00	1.243E+00	1.277E+00
Z	1.000E+00	1.011E+00	1.004E+00
GAME	9.302E-01	8.900E-01	9.767E-01
U	5.125E+00	1.448E+00	1.678E+00

SPECIES	MOLE FRACTIONS
E-	2.006E-16
FE	4.999E-02
HE+	3.599E-57
HE++	0.
H	1.571E-03
H+	2.000E-20
H2	9.484E-01

P1 = 5.00E+04 N/50-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.847E+01	2.569E+02	4.407E+02
T	9.510E+00	1.323E+01	1.550E+01
RMC	6.120E+00	1.879E+01	2.659E+01
M	1.094E+01	1.733E+01	2.237E+01
A	2.540E+00	3.459E+00	3.808E+00
S	1.255E+00	1.243E+00	1.320E+00
Z	1.000E+00	1.032E+00	1.069E+00
GAME	9.048E-01	9.756E-01	9.753E-01
U	5.847E+00	1.032E+00	1.748E+00

SPECIES	MOLE FRACTIONS
E-	1.030E-13
FE	4.977E-02
HE+	2.611E-31
HE++	0.
H	8.842E-03
H+	1.030E-13
H2	9.413E-01

$$p_1 = 50 \text{ kN m}^2$$

P1 = 5.0CE+04 N/SEC, US1= 1.00F+04 W/SEC				P1 = 5.0GE+04 N/SEC, US1= 1.30E+04 N/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	7.2855E+01	3.5432E+02	5.8459E+02	P	1.2666E+02	7.4318E+02	1.2293E+03
T	1.0047E+01	1.5075E+01	1.7395E+01	T	1.4515E+01	2.0434E+01	2.3530E+01
MHC	6.5061E+00	2.2045E+01	3.0159E+01	MHC	8.0231E+00	3.1474E+01	3.9911E+01
M	1.3321E+01	2.1505E+01	2.7436E+01	M	2.1986E+01	3.7261E+01	4.5540E+01
A	3.1294E+00	3.7408E+00	4.1330E+00	A	3.6874E+00	4.7310E+00	5.3368E+00
S	1.2937E+00	1.3265E+00	1.3452E+00	S	1.3964E+00	1.4503E+00	1.5223E+00
Z	1.0145E+00	1.0653E+00	1.1155E+00	Z	1.0859E+00	1.2176E+00	1.3090E+00
LAPE	9.4214E+01	9.7324E+01	9.8123E+01	LAPE	8.6279E+01	9.9494E+01	9.2449E+01
U	6.5946E+00	1.0358E+00	1.0332E+00	U	8.8375E+00	2.2510E+00	2.2233E+00

P1 = 5.0CE+04 N/SEC, US1= 1.00F+04 W/SEC				P1 = 5.0GE+04 N/SEC, US1= 1.30E+04 N/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	7.2855E+01	3.5432E+02	5.8459E+02	P	1.2666E+02	7.4318E+02	1.2293E+03
T	1.0047E+01	1.5075E+01	1.7395E+01	T	1.4515E+01	2.0434E+01	2.3530E+01
MHC	6.5061E+00	2.2045E+01	3.0159E+01	MHC	8.0231E+00	3.1474E+01	3.9911E+01
M	1.3321E+01	2.1505E+01	2.7436E+01	M	2.1986E+01	3.7261E+01	4.5540E+01
A	3.1294E+00	3.7408E+00	4.1330E+00	A	3.6874E+00	4.7310E+00	5.3368E+00
S	1.2937E+00	1.3265E+00	1.3452E+00	S	1.3964E+00	1.4503E+00	1.5223E+00
Z	1.0145E+00	1.0653E+00	1.1155E+00	Z	1.0859E+00	1.2176E+00	1.3090E+00
LAPE	9.4214E+01	9.7324E+01	9.8123E+01	LAPE	8.6279E+01	9.9494E+01	9.2449E+01
U	6.5946E+00	1.0358E+00	1.0332E+00	U	8.8375E+00	2.2510E+00	2.2233E+00

P1 = 5.0CE+04 N/SEC, US1= 1.00F+04 W/SEC				P1 = 5.0GE+04 N/SEC, US1= 1.30E+04 N/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	7.2855E+01	3.5432E+02	5.8459E+02	P	1.2666E+02	7.4318E+02	1.2293E+03
T	1.0047E+01	1.5075E+01	1.7395E+01	T	1.4515E+01	2.0434E+01	2.3530E+01
MHC	6.5061E+00	2.2045E+01	3.0159E+01	MHC	8.0231E+00	3.1474E+01	3.9911E+01
M	1.3321E+01	2.1505E+01	2.7436E+01	M	2.1986E+01	3.7261E+01	4.5540E+01
A	3.1294E+00	3.7408E+00	4.1330E+00	A	3.6874E+00	4.7310E+00	5.3368E+00
S	1.2937E+00	1.3265E+00	1.3452E+00	S	1.3964E+00	1.4503E+00	1.5223E+00
Z	1.0145E+00	1.0653E+00	1.1155E+00	Z	1.0859E+00	1.2176E+00	1.3090E+00
LAPE	9.4214E+01	9.7324E+01	9.8123E+01	LAPE	8.6279E+01	9.9494E+01	9.2449E+01
U	6.5946E+00	1.0358E+00	1.0332E+00	U	8.8375E+00	2.2510E+00	2.2233E+00

P1 = 5.0CE+04 N/SEC, US1= 1.00F+04 W/SEC				P1 = 5.0GE+04 N/SEC, US1= 1.30E+04 N/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	7.2855E+01	3.5432E+02	5.8459E+02	P	1.2666E+02	7.4318E+02	1.2293E+03
T	1.0047E+01	1.5075E+01	1.7395E+01	T	1.4515E+01	2.0434E+01	2.3530E+01

P1 = 5.00E+04 N/SQ-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4556E+02	9.668E+02	1.5150E+03
T	1.556E+01	2.2303E+01	2.5924E+01
RMC	8.537E+03	3.3810E+01	4.2674E+01
M	2.5376E+01	4.3395E+01	5.4273E+01
A	3.8866E+00	5.1139E+00	5.8371E+00
S	1.4322E+00	1.4933E+00	1.5491E+00
Z	1.1218E+00	1.2822E+00	1.3890E+00
GAPE	4.8543E-01	9.1442E-01	9.4426E-01
U	9.5862E+00	2.3965E+00	2.4130E+00

P1 = 5.00E+04 N/SQ-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4556E+02	9.668E+02	1.5150E+03
T	1.556E+01	2.2303E+01	2.5924E+01
RMC	8.537E+03	3.3810E+01	4.2674E+01
M	2.5376E+01	4.3395E+01	5.4273E+01
A	3.8866E+00	5.1139E+00	5.8371E+00
S	1.4322E+00	1.4933E+00	1.5491E+00
Z	1.1218E+00	1.2822E+00	1.3890E+00
GAPE	4.8543E-01	9.1442E-01	9.4426E-01
U	9.5862E+00	2.3965E+00	2.4130E+00

SPECIES

SPECIES	MOLE FRACTIONS
E-	2.6541E-08
FE	4.4572E-02
ME+	1.2638E-19
ME++	1.9917E-69
H	2.1713E-01
HO	2.6541E-09
P2	7.3833E-01

SPECIES

SPECIES	MOLE FRACTIONS
E-	1.4147E-10
FE	4.4572E-02
ME+	1.2638E-19
ME++	1.9917E-69
H	2.1713E-01
HO	2.6541E-09
P2	7.3833E-01

P1 = 5.00E+04 N/SQ-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7021E+02	1.1661E+03	1.8331E+03
T	1.6576E+01	2.4266E+01	2.8606E+01
RMC	8.8317E+00	3.5547E+01	4.3483E+01
M	2.9314E+01	4.9956E+01	6.27.8E+01
A	4.3949E+00	5.285E+00	6.3992E+00
S	1.4654E+00	1.535E+00	1.5959E+00
Z	1.162E+00	1.3518E+00	1.4737E+00
GAPE	9.763E-01	9.3175E-01	9.7136E-01
U	1.3336E+01	2.5070E+00	2.6323E+00

P1 = 5.00E+04 N/SQ-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7021E+02	1.1661E+03	1.8331E+03
T	1.6576E+01	2.4266E+01	2.8606E+01
RMC	8.8317E+00	3.5547E+01	4.3483E+01
M	2.9314E+01	4.9956E+01	6.27.8E+01
A	4.3949E+00	5.285E+00	6.3992E+00
S	1.4654E+00	1.535E+00	1.5959E+00
Z	1.162E+00	1.3518E+00	1.4737E+00
GAPE	9.763E-01	9.3175E-01	9.7136E-01
U	1.3336E+01	2.5070E+00	2.6323E+00

SPECIES

SPECIES	MOLE FRACTIONS
E-	8.6448E-08
ME	4.3026E-02
ME+	1.6533E-19
ME++	2.1999E-67
H	2.7975E-01
HO	5.842E-09
P2	6.7724E-01

SPECIES

SPECIES	MOLE FRACTIONS
E-	1.2555E-10
ME	4.7370E-02
ME+	1.642E-19
ME++	8.335E-61
H	1.25.1E-01
HO	1.2555E-09
P2	5.9742E-01

Table III. - Continued

 $P_1 = 50 \text{ kN/m}^2$

$P_1 = 5.00E+04 \text{ N/SQ-M, US1= 1.60E+04 4/SEC}$				$P_1 = 5.00E+04 \text{ N/SQ-M, US1= 1.40E+04 4/SEC}$			
SPECIES	MOLE FRACTIONS		REFLECTED SHOCK	SPECIES	MOLE FRACTIONS		REFLECTED SHOCK
	MOVING SHOCK	STANDING SHOCK			MOVING SHOCK	STANDING SHOCK	
P	1.9440E+02	1.3774E+03	2.1835E+03	P	2.7573E+02	2.0007E+03	3.6051E+03
T	1.7589E+01	2.6366E+01	3.1713E+01	T	2.0651E+01	3.0946E+01	4.5312E+01
RHO	9.1521E+07	3.6661E+01	4.4112E+01	RHO	6.7447E+03	3.6360E+01	4.1937E+01
H	3.2905E+01	5.6932E+01	7.1934E+01	H	6.6055E+01	6.0094E+01	1.2491E+02
A	4.3141E+00	5.9789E+00	7.0057E+00	A	5.0537E+00	7.5871E+00	9.3575E+00
S	1.5052E+00	1.5779E+00	1.6425E+00	S	1.6174E+00	1.7030E+00	1.7761E+00
Z	1.2083E+00	1.4250E+00	1.5609E+00	Z	1.3677E+00	1.6466E+00	1.7919E+00
GAME	8.7624E-01	9.5145E-01	1.0000E+00	GAME	9.0261E-01	1.0233E+00	1.0773E+00
U	1.1069E+01	2.7639E+00	2.8951E+00	U	1.3241E+01	3.5467E+00	4.3059E+00
SPECIES				SPECIES			
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
E-	2.3805E-07	2.7804E-05	1.6243E-04	E-	2.8749E-06	3.3311E-04	2.6715E-01
HE	4.1391E-02	3.5097E-02	3.2034E-02	HE	3.6270E-02	1.0360E-02	2.7023E-02
ME+	1.5706E-17	2.9566E-12	2.0168E-10	ME+	4.1479E-15	4.4412E-13	1.3545E-07
ME+	5.0532E-62	6.8795E-42	5.0210E-35	ME+	7.4001E-53	1.1503E-32	1.4377E-24
H	3.4435E-01	5.9643E-01	7.1816E-01	H	5.3719E-01	7.8455E-01	9.7546E-01
H+	2.3465E-07	2.7904E-05	1.6243E-04	H+	2.8749E-06	3.3311E-04	2.6715E-01
H2	6.1425E-01	3.6842E-01	2.4948E-01	H2	4.2643E-01	1.9462E-01	2.0854E-02

P1 = 5.00E+04 N/SQ-M, US1 = 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.2032E+02	1.5959E+03	2.5642E+03
T	1.8595E+01	2.8644E+01	3.5415E+01
RHC	9.4107E+00	3.7143E+01	4.3572E+01
M	3.7042E+01	6.4295E+01	8.2318E+01
A	4.5459E+00	6.4675E+00	7.7538E+00
S	1.5424E+03	1.615E+0C	1.6884E+03
Z	1.2575E+00	1.5003E+00	1.6466E+00
GAPE	9.9376E-01	9.7349E-01	1.0310E+00
U	1.1800E+01	2.9881E+00	3.2124E+00

SPECIES ----- MILE FRACTIONS -----

E-	5.8953E-07	6.6650E-05	4.2642E-04
ME	3.5762E-02	3.3333E-02	3.7366E-02
ME+	1.1796E-16	2.1960E-11	1.9322E-09
ME++	1.0948E-58	1.1399E-38	2.0705E-31
M	4.0951E-01	6.565CE-01	7.8409E-01
M+	5.8953E-07	6.6650E-05	4.2642E-04
M2	5.5073E-01	3.3003E-01	1.9470E-01

P1 = 5.00E+04 N/SQ-M, US1 = 1.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4719E+02	1.9165E+03	2.9725E+03
T	1.9627E+01	3.1160E+01	3.9407E+01
RHC	9.6681E+00	3.7019E+01	4.3174E+01
M	4.1425E+01	7.2022E+01	9.3005E+01
A	4.7919E+00	6.9969E+00	9.5421E+00
S	1.5801E+00	1.6603E+00	1.7332E+00
Z	1.3137E+00	1.5747E+00	1.7254E+00
GAPE	8.9253E-01	9.9767E-01	1.0597E+00
U	1.2524E+01	3.2496E+00	3.5937E+00

SPECIES ----- MILE FRACTIONS -----

E-	1.3417E-06	1.5187E-04	1.7915E-03
ME	3.8147E-02	3.1751E-02	2.9979E-02
ME+	7.4448E-16	1.4466E-10	1.6741E-08
ME++	1.1762E-55	1.3579E-35	6.7069E-29
M	4.7410E-01	7.2949E-01	8.3756E-01
M+	1.3417E-06	1.5187E-04	1.0915E-03
M2	4.8775E-01	2.3845E-01	1.3128E-01

P1 = 5.00E+04 N/SQ-M, US1 = 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0564E+02	2.7452E+03	3.9513E+03
T	2.1817E+01	3.7193E+01	5.1477E+01
RHC	5.8221E+00	4.5243E+01	4.0577E+01
M	5.0531E+01	8.9490E+01	1.1762E+02
A	5.3343E+00	4.1707E+00	1.0111E+01
S	1.655CE+03	1.7331E+02	1.8144E+03
Z	1.4266E+00	1.7126E+00	1.8442E+00
GAPE	9.1411E-01	1.0491E+00	1.0769E+00
U	1.3632E+01	3.4335E+00	4.4527E+00

SPECIES ----- MILE FRACTIONS -----

E-	5.3950E-05	7.7051E-04	5.7494E-03
ME	2.5049E-02	2.0132E-02	2.7112E-02
ME+	2.1113E-14	5.0617E-09	9.4466E-07
ME++	2.6057E-50	7.1797E-30	1.3262E-21
M	5.9951E-01	9.3304E-01	8.7715E-01
M+	5.8951E-06	7.3959E-04	5.7475E-03
M2	3.6649E-01	1.3335E-01	6.3345E-02

P1 = 5.00E+04 N/SQ-M, US1 = 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3664E+02	2.4437E+03	4.2099E+03
T	2.3214E+01	4.0944E+01	5.7932E+01
RHC	5.9351E+00	4.7331E+01	3.9742E+01
M	5.0351E+01	8.7152E+01	1.3089E+02
A	5.6354E+00	4.7464E+00	1.0776E+01
S	1.6534E+00	1.7745E+00	1.9537E+00
Z	1.4941E+00	1.6941E+00	1.9953E+00
GAPE	9.2741E-01	1.0437E+00	1.0632E+00
U	1.4654E+01	4.2511E+00	4.3843E+00

SPECIES ----- MILE FRACTIONS -----

E-	1.1723E-05	1.4559E-03	1.1559E-02
ME	3.355CE-02	2.9252E-02	2.6517E-02
ME+	1.0116E-13	2.6731E-08	4.2136E-06
ME++	1.2478E-27	3.3531E-27	3.7617E-19
M	6.5641E-01	4.6550E-01	9.0450E-01
M+	1.1723E-05	1.4559E-03	1.1554E-02
M2	3.1637E-01	1.0332E-01	4.4871E-02

Table III. - Continued

 $P_1 = 50 \text{ kN/m}^2$

P1 = 5.00E+04 N/SQ-M, US1 = 2.20E+04 M/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 2.50E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	-----	-----	-----		-----	-----	-----
E-	2.2928E-05	2.8725E-03	1.9570E-02	E-	1.7410E-04	1.4414E-02	5.3787E-02
FE	3.2236E-02	2.7506E-02	2.6219E-02	FE	2.4815E-02	2.6098E-02	2.4583E-02
HE+	4.7859E-13	1.2915E-07	1.4593E-05	HE+	5.4288E-11	5.4618E-06	1.6021E-04
HE+	4.5160E-45	1.0428E-24	3.2007E-17	HE+	2.0495E-37	7.6166E-19	1.7916E-13
H	7.1050E-01	8.9113E-01	8.9998E-01	H	6.4689E-01	9.1263E-01	8.4909E-01
H+	2.2938E-05	2.9728E-03	1.9558E-02	H+	1.7410E-04	1.4408E-02	5.3626E-02
H2	2.5721E-01	7.5618E-02	3.4862E-02	H2	1.2354E-01	3.2445E-02	1.8758E-02
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	-----	-----	-----		-----	-----	-----
P	3.6557E+02	2.6254E+03	4.7277E+03	P	4.7422E+02	3.0794E+03	5.9219E+03
T	2.4316E+01	4.4593E+01	6.4288E+01	T	2.9301E+01	5.8435E+01	8.1266E+01
RHC	9.7989E+00	3.2174E+01	3.8285E+01	RHC	9.3269E+00	2.7512E+01	3.9451E+01
H	6.1413E+01	1.0609E+02	1.4449E+02	H	7.8928E+01	1.3455E+02	1.8664E+02
A	5.9632E+00	9.3844E+00	1.1366E+01	A	7.1573E+00	1.0964E+01	1.2992E+01
S	1.7314E+00	1.8096E+00	1.8883E+00	S	1.8405E+00	1.8047E+00	1.9817E+00
Z	1.5511E+00	1.8178E+00	1.9206E+00	Z	1.7352E+00	1.9155E+00	2.0209E+00
GAME	9.4282E-01	1.0793E+00	1.0622E+00	GAME	1.0074E+00	1.0344E+00	1.0121E+00
U	1.5341E+01	4.6700E+00	5.2753E+00	U	1.7334E+01	5.9741E+00	6.1999E+00

P1 = 5.03E+04 N/50-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0337E+02	2.7969E+03	5.1323E+03
T	2.5760E+01	4.9337E+01	7.0301E+01
RHO	5.7000E+00	3.0489E+01	3.7367E+01
M	6.7C16E+01	1.1527E+02	1.5836E+02
A	6.3213E+00	9.9361E+00	1.1030E+01
S	1.7686E+00	1.6430E+00	1.9235E+00
Z	1.6143E+00	1.8565E+00	1.9537E+00
GAME	9.6091E-01	1.0785E+00	1.0316E+00
U	1.6020E+01	5.0942E+00	5.6265E+00

SPECIES

MOLE FRACTIONS

E-	4.46+6F-05	5.3274E-03	2.0552E-02
HE	3.0973E-02	2.6932E-02	2.5553E-02
ME	2.2414E-12	5.4109E-07	3.4710E-05
HE++	1.5006E-02	1.8741E-22	1.0954E-15
H	7.6054E-01	9.0672E-01	9.9770E-01
M+	4.4646E-05	5.3269E-03	2.9513E-02
M2	2.0860E-01	5.5694E-02	2.7646E-02

P1 = 5.00E+04 N/50-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.1102E+02	3.2002E+03	6.0F98E+03
T	3.1154E+01	6.2927E+01	9.6191E+01
RHO	9.0564E+00	2.6195E+01	3.4379E+01
M	8.5228E+01	1.4466E+02	2.0099E+02
A	7.6437E+00	1.1271E+01	1.3350E+01
S	1.8747E+00	1.9341E+00	2.3110E+00
Z	1.7985E+00	1.9414E+00	2.0554E+00
GAME	1.0354E+00	1.0399E+00	1.0061E+00
U	1.7963E+01	6.2075E+00	6.4236E+00

SPECIES

MOLE FRACTIONS

E-	3.5433E-04	2.1277E-02	6.7101E-02
HE	2.7956E-02	2.5741E-02	2.4056E-02
ME	2.9100E-10	1.5322E-05	2.7017E-04
HE++	1.0115E-34	1.9521E-17	1.1741E-12
H	8.8371E-01	9.0631E-01	8.2592E-01
M+	3.5633E-04	2.1263E-02	6.6830E-02
M2	9.0625E-02	2.5091E-02	1.5827E-02

P1 = 5.00E+04 N/50-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.3835E+02	2.9443E+03	5.4991E+03
T	2.7399E+01	5.3853E+01	7.5974E+01
RHO	9.5421E+00	2.8965E+01	3.6424E+01
M	7.2856E+01	1.2477E+02	1.7239E+02
A	6.7170E+00	1.0423E+01	1.2411E+01
S	1.8050E+00	1.8743E+00	1.9516E+00
Z	1.6763E+00	1.8878E+00	1.9870E+00
GAME	9.8232E-01	1.0046E+00	1.0233E+00
U	1.6695E+01	5.4924E+00	5.9183E+00

SPECIES

MOLE FRACTIONS

E-	9.7446E-05	9.0973E-03	4.1138E-02
HE	2.9827E-02	2.6483E-02	2.5079E-02
ME	1.0763E-11	1.9759E-06	9.4817E-05
HE++	5.1390E-40	1.6486E-20	1.4269E-14
H	9.0666E-01	9.1330E-01	9.7011E-01
M+	8.7446E-05	9.0954E-03	4.1053E-02
M2	1.6334E-01	4.2319E-02	2.2539E-02

P1 = 5.00E+04 N/50-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.4855E+02	3.3003E+03	6.3041E+03
T	3.4209E+01	6.7250E+01	9.0761E+01
RHO	8.7647E+00	2.4930E+01	3.3221E+01
M	9.1756E+01	1.5505E+02	2.1541E+02
A	9.1645E+00	1.1657E+01	1.3788E+01
S	1.9373E+00	1.9628E+00	2.0399E+00
Z	1.8337E+00	1.9612E+00	2.0502E+00
GAME	1.0627E+00	1.0271E+00	1.0318E+00
U	1.8573E+01	6.4949E+00	6.6346E+00

SPECIES

MOLE FRACTIONS

E-	7.3172E-04	2.0535E-02	9.0929E-02
HE	2.7247E-02	2.5366E-02	2.3656E-02
ME	1.6355E-09	2.8957E-05	4.1939E-04
HE++	5.5372E-32	2.9273E-16	5.4793E-12
H	9.0712E-01	9.9474E-01	9.0137E-01
M+	7.3172E-04	2.9546E-02	8.4610E-02
M2	6.4153E-02	2.0935E-02	1.1675E-02

Table III. - Continued

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 2.90E+04 M/SEC				P1 = 5.00E+04 N/SQ-M, US1 = 3.20E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8682E+02	3.3986E+03	6.4742E+03	P	7.5261E+02	3.3986E+03	7.2817E+03
T	3.7322E+01	7.1436E+01	9.5055E+01	T	5.1851E+01	9.6909E+01	1.1138E+02
RHC	8.4695E+00	2.3460E+01	3.2019E+01	RHC	7.4332E+00	2.1255E+01	2.8657E+01
H	5.8492E+01	1.6574E+02	2.2996E+02	H	1.2793E+02	2.1276E+02	2.9236E+02
A	8.8893E+00	1.2033E+01	1.4210E+01	A	1.0265E+01	1.3505E+01	1.5897E+01
S	1.9382E+03	1.9913E+03	2.0683E+03	S	2.0461E+00	2.0946E+00	2.1755E+00
Z	1.8656E+00	1.9930E+00	2.1271E+00	Z	1.9527E+00	2.1106E+00	2.2813E+00
GAME	1.0821E+00	1.0166E+00	9.967E-01	GAME	1.0427E+00	9.9456E-01	9.9449E-01
U	1.9150E+01	6.7493E+00	6.8248E+00	U	2.1504E+01	7.5170E+00	7.5324E+00
SPECIES				SPECIES			
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----			
E-	1.5092E-03	3.9130E-02	9.4763E-02	E-	1.4374E-02	9.5324E-02	1.5190E-01
HE	2.6743E-02	2.5021E-02	2.2901E-02	HE	2.5003E-02	2.3333E-02	2.0127E-02
HE+	9.1927E-09	5.5773E-05	6.0549E-04	HE+	2.0647E-06	3.9933E-04	1.7898E-03
ME++	2.5719E-29	3.0148E-15	2.1908E-11	ME++	5.0448E-21	2.3906E-12	1.3697E-09
H	5.2575E-01	9.7961E-01	7.7597E-01	H	9.3207E-01	7.9680E-01	6.6841E-01
M+	1.5082E-03	3.9074E-02	9.4187E-02	M+	1.4372E-02	8.4965E-02	1.5011E-01
M2	4.4443E-02	1.7111E-02	1.1546E-02	M2	1.2977E-02	6.2261E-03	6.6637E-03

P1 = 5.00E+04 N/SQ-M, US1 = 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.4602E+02	4.2903E+03	7.9562E+03
T	5.9734E+01	9.4453E+01	1.1995E+02
RMC	7.2421E+00	2.0865E+01	2.8041E+01
H	1.4432E+02	2.3932E+02	3.2775E+02
A	1.0859E+01	1.4274E+01	1.6815E+01
S	2.0957E+00	2.1417E+00	2.2256E+00
Z	1.5849E+00	2.1708E+00	2.3656E+00
GAME	1.0055E+00	9.9092E-01	9.9455E-01
U	2.2755E+01	7.8949E+00	7.9140E+00

SPECIES	MOLE FRACTIONS
E-	2.8211E-02
HE	1.1142E-01
HE+	2.2270E-02
HE++	6.5926E-04
H	1.0735E-05
H+	2.7752E-11
H+	5.0905E-01
H+	7.4767E-01
H2	1.1721E-01
H2	7.2167E-03
H2	8.6548E-03

P1 = 5.00E+04 N/SQ-M, US1 = 3.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4695E+02	4.7725E+03	8.4031E+03
T	6.5051E+01	1.0205E+02	1.2844E+02
RMC	7.1684E+00	2.0405E+01	2.7457E+01
H	1.6127E+02	2.6799E+02	3.6624E+02
A	1.1434E+01	1.5039E+01	1.7785E+01
S	2.1327E+00	2.1867E+00	2.2734E+00
Z	2.0304E+00	2.2476E+00	2.4527E+00
GAME	9.8941E-01	9.8597E-01	1.0009E+00
U	2.4054E+01	8.2855E+00	9.3359E+00

SPECIES	MOLE FRACTIONS
E-	4.5455E-02
HE	1.3819E-01
HE+	2.4540E-02
HE++	1.2035E-03
H	3.5916E-05
H+	2.6047E-16
H+	8.7712E-01
H+	6.9690E-01
H2	1.3699E-01
H2	5.7812E-03
H2	6.3783E-03

P1 = 5.00E+04 N/SQ-M, US1 = 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.2605E+02	3.4967E+03	6.6331E+03
T	4.3798E+01	7.5381E+01	9.9171E+01
RMC	8.0931E+00	2.2953E+01	3.0893E+01
H	1.0546E+02	1.7683E+02	2.4475E+02
A	9.1713E+00	1.2395E+01	1.4624E+01
S	1.5672E+00	2.0182E+00	2.0962E+00
Z	1.8566E+00	2.0209E+00	2.1641E+00
GAME	1.0065E+00	1.0386E+00	9.9651E-01
U	1.9737E+01	6.0527E+00	7.0024E+00

SPECIES	MOLE FRACTIONS
E-	2.5834E-03
HE	4.6444E-02
HE+	2.2706E-02
HE++	2.4644E-02
H	9.5930E-05
H+	8.3410E-04
H+	2.1531E-14
H+	7.1414E-11
H2	4.9376E-01
H2	1.0837E-01
H2	9.9632E-03
H2	1.4392E-02

P1 = 5.00E+04 N/SQ-M, US1 = 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.6659E+02	3.6356E+03	6.9663E+03
T	4.4476E+01	7.9225E+01	1.0322E+02
RMC	7.9145E+00	2.2231E+01	2.7925E+01
H	1.1266E+02	1.9831E+02	2.6035E+02
A	9.2595E+00	1.2761E+01	1.5044E+01
S	1.9945E+00	2.2445E+00	2.1237E+00
Z	1.5179E+00	2.0495E+00	2.2024E+00
GAME	1.0773E+00	1.0024E+00	9.9125E-01
U	2.0315E+01	7.1472E+00	7.1944E+00

SPECIES	MOLE FRACTIONS
E-	5.4876E-03
HE	6.0794E-02
HE+	2.4239E-02
HE++	1.5793E-04
H	1.1135E-03
H+	2.3222E-13
H+	7.2393E-10
H+	9.4191E-01
H2	1.2221E-01
H2	9.0372E-03
H2	1.2252E-02

$$\rho_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, UCI = 3.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0544E+03	5.3222E+03	9.7854E+03
T	7.0519E+01	1.3922E+02	1.3922E+02
KHC	7.1519E+03	2.0903E+01	2.7844E+01
M	1.7955E+02	2.7961E+02	4.0773E+02
S	1.2006E+01	1.5894E+01	1.8823E+01
S	2.1739E+02	2.2304E+02	2.3204E+02
Z	2.6772E+02	2.3219E+02	2.5437E+02
GAME	9.8787E-01	9.8705E-01	1.0077E+00
U	2.5339E+01	2.0914E+00	8.7868E+00

P1 = 5.00E+04 N/SQ-M, US1 = 4.40F+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6173E+03	7.2783E+03	1.6173E+03
T	8.6853E+01	1.3295E+02	1.6930E+02
RHC	7.2684E+00	2.1387E+01	2.7989E+01
M	2.4405E+02	4.0126E+02	5.4979E+02
A	1.3750E+01	1.8483E+01	2.2293E+01
S	2.2919E+00	2.3563E+00	2.4569E+00
Z	2.2435E+00	2.5597E+00	2.8289E+00
GAME	9.6991E-01	1.0039E+00	1.0372E+00
U	2.5470E+01	1.0012E+01	1.0349E+01

SPECIES			
	MOLE FRACTIONS		
E-	1.3349E-01	2.4076E-01	3.1229E-01
HE	2.1658E-02	1.5171E-02	1.1267E-01
HE+	5.9797E-04	4.3629E-03	6.4050F-03
HE++	6.8834E-12	7.0326E-04	2.3806E-04
H	7.0866E-01	5.0074E-01	3.6256E-01
H+	1.3251E-01	2.3639E-01	3.0508E-01
H2	2.6527E-03	2.5730E-03	1.5964E-03

P1 = 5.00E+04 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.18E+03	5.0250E+03	1.092E+04
T	7.44E+01	1.173E+02	1.493E+02
RHC	7.182E+09	2.1350E+01	2.705E+01
H	1.985E+02	3.3130E+02	4.520E+02
A	1.258E+01	1.077E+01	1.901E+01
S	2.21E+03	2.773E+02	2.764E+02
Z	0.17E+00	2.771E+00	2.836E+00
GAME	0.72E+01	9.16E+01	1.01E+02
U	2.67E+01	0.1130E+00	0.2001E+00

SPECIES	MULE FRACTIONS
E-	0.75E-07
ME	1.910E-01
HE+	1.917E-02
HE++	2.662E-03
H	5.821E-09
HE+	3.397E-07
H	4.574E-01
HE+	5.558E-01
HE+	1.993E-01
H2	3.839E-03

P1 = 5.00E+04 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.289E+03	0.584E+03	1.210E+04
T	9.17E+01	1.253E+02	1.584E+02
RHC	7.22E+09	2.124E+01	2.795E+01
H	2.152E+02	3.633E+02	4.994E+02
A	1.21E+01	1.758E+01	2.108E+01
S	2.53E+03	2.315E+00	2.412E+00
Z	2.194E+00	2.478E+00	2.733E+00
GAME	0.73E+01	0.570E+01	1.026E+02
U	2.81E+01	0.552E+00	0.787E+03

SPECIES	MULE FRACTIONS
E-	1.135E-01
ME	2.253E-02
HE+	3.517E-04
HE++	1.021E-12
H	7.531E-01
HE+	1.102E-01
H2	3.145E-03

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

P1 = 5.00E+04 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.550E+03	9.004E+03	1.490E+04
T	9.192E+01	1.409E+02	1.811E+02
RHC	7.31E+09	2.150E+01	2.792E+01
H	2.625E+02	4.388E+02	6.031E+02
A	1.434E+01	1.940E+01	2.357E+01
S	2.330E+00	2.396E+00	2.502E+00
Z	2.355E+00	2.641E+00	2.826E+00
GAME	9.705E+01	1.011E+00	1.085E+00
U	3.094E+01	1.049E+01	1.394E+01

SPECIES	MULE FRACTIONS
E-	1.564E-01
ME	2.773E-02
HE+	5.137E-04
HE++	3.614E-11
H	4.765E-01
HE+	2.586E-01
H2	2.203E-03

P1 = 5.00E+04 N/SQ-M, US1 = 4.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.695E+03	8.756E+03	1.628E+04
T	9.688E+01	1.492E+02	1.935E+02
RHC	7.357E+09	2.152E+01	2.792E+01
H	2.862E+02	4.779E+02	6.591E+02
A	1.494E+01	2.036E+01	2.490E+01
S	2.568E+00	2.437E+00	2.545E+00
Z	2.371E+00	2.725E+00	3.023E+00
GAME	9.722E+01	1.019E+00	1.059E+00
U	3.221E+01	1.100E+01	1.156E+01

SPECIES	MULE FRACTIONS
E-	1.760E-01
ME	1.976E-02
HE+	1.336E-03
HE++	1.561E-10
H	6.203E-01
HE+	1.777E-01
H2	1.694E-03

Table III. - Continued

$$P_1 = 50 \text{ kN/m}^2$$

P1 = 5.00E+04 N/SQ-M, US1 = 5.00E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.8345E+03	9.5302E+03	1.7839E+04
T	1.0182E+02	1.5777E+02	2.0693E+02
RHO	7.3951E+03	2.1509E+01	2.7677E+01
H	3.1057E+02	5.1856E+02	7.1829E+02
A	1.5549E+01	2.1347E+01	2.6272E+01
S	2.4059E+00	2.4767E+00	2.5889E+00
Z	2.4365E+00	2.8083E+00	3.1153E+00
GAME	9.7459E-01	1.0285E+00	1.0713E+00
U	3.3500E+01	1.1541E+01	1.2236E+01
P1 = 5.00E+04 N/SQ-M, US1 = 5.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.3043E+03	1.1935E+04	2.2934E+04
T	1.1671E+02	1.9510E+02	2.5324E+02
RHO	7.4667E+00	2.1127E+01	2.6848E+01
H	3.8946E+02	6.4915E+02	9.1484E+02
A	1.7443E+01	2.4439E+01	3.0894E+01
S	2.5173E+00	2.5910E+00	2.7138E+00
Z	2.8456E+00	3.0522E+00	3.3726E+00
GAME	9.8569E-01	1.0572E+00	1.1032E+00
U	3.7665E+01	1.3305E+01	1.4513E+01
SPECIES			
MOLE FRACTIONS			
E-	2.6364E-01	3.6177E-01	4.2208E-01
HE	1.5008E-02	9.9421E-03	6.7595E-03
HE+	3.8960E-03	7.4302E-03	7.8322E-03
HE++	1.4454E-04	9.5977E-06	2.0366E-04
H	4.5483E-01	2.6696E-01	1.4903E-01
H+	2.5974E-01	3.5432E-01	4.1382E-01
H2	8.8674E-04	6.6524E-04	2.5194E-04

P1 = 5.00E+04 N/SQ-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9854E+03	1.0320E+04	1.9465E+04
T	1.0675E+02	1.6657E+02	2.2109E+02
RHO	7.4254E+00	2.1429E+01	2.7467E+01
M	3.3589E+02	5.4065E+02	7.9071E+02
A	1.6167E+01	2.2357E+01	2.7697E+01
S	2.4434E+00	2.3157E+00	2.6307E+00
Z	2.5047E+00	2.8912E+00	3.2053E+00
GAME	9.7762E-01	1.0379E+00	1.0924E+00
U	3.4945E+01	1.2105E+01	1.2957E+01

SPECIES	MOLE FRACTIONS
E-	2.2275E-01
HE	1.7491E-02
HE+	2.4711E-03
HE++	1.8717E-09
H	5.3572E-01
H+	2.2024E-01
H2	1.2804E-03
	3.2663E-01
	1.0488E-02
	6.8032E-03
	2.4430E-06
	3.3518E-01
	3.1982E-01
	1.0805E-03
	3.5714E-01
	8.0710E-03
	7.4744E-03
	5.3638E-05
	2.0721E-01
	3.8455E-01
	4.9921E-04

P1 = 5.00E+04 N/SQ-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1423E+03	1.1120E+04	2.1161E+04
T	1.1171E+02	1.7569E+02	2.3656E+02
RHO	7.4444E+00	2.1288E+01	2.7175E+01
M	3.6218E+02	6.0416E+02	7.4605E+02
A	1.6759E+01	2.3392E+01	2.9177E+01
S	2.4805E+00	2.5940E+00	2.6727E+00
Z	2.5744E+00	2.9731E+00	3.2917E+00
GAME	9.8130E-01	1.0476E+00	1.0931E+00
U	3.6307E+01	1.2699E+01	1.3707E+01

SPECIES	MOLE FRACTIONS
E-	2.4361E-01
HE	1.6263E-02
HE+	3.1591E-03
HE++	5.4521E-09
H	4.9545E-01
H+	2.4345E-01
H2	1.6669E-03
	3.4457E-01
	9.6593E-03
	7.1542E-03
	4.9673E-06
	2.9950E-01
	3.3783E-01
	8.5021E-04
	4.0796E-01
	7.4249E-03
	7.6565E-03
	1.0620E-04
	1.7639E-01
	4.0010E-01
	3.5738E-04

P1 = 5.00E+04 N/SQ-M, US1 = 5.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4716E+03	1.2727E+04	2.4718E+04
T	1.2183E+02	1.9503E+02	2.7087E+02
RHO	7.4673E+00	2.0443E+01	2.6485E+01
M	4.1779E+02	6.9512E+02	9.8567E+02
A	1.8110E+01	2.5526E+01	3.2211E+01
S	2.5541E+00	2.6298E+00	2.7532E+00
Z	2.7169E+00	3.1312E+00	3.4455E+00
GAME	9.9082E-01	1.0670E+00	1.1117E+00
U	3.9007E+01	1.3970E+01	1.4705E+01

SPECIES	MOLE FRACTIONS
E-	2.8302E-01
HE	1.3743E-02
HE+	4.6602E-03
HE++	3.5639E-09
H	4.1945E-01
H+	2.7830E-01
H2	7.3230E-04
	3.7774E-01
	9.2836E-03
	7.6669E-03
	1.9244E-05
	2.3575E-01
	3.7004E-01
	5.0974E-04
	4.3422E-01
	6.1491E-03
	7.9919E-03
	3.7176E-04
	1.2561E-01
	4.2549E-01
	1.7661E-04

P1 = 5.00E+04 N/SQ-M, US1 = 6.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6445E+03	1.3535E+04	2.6550E+04
T	1.2709E+02	2.7524E+02	2.8977E+02
RHO	7.4592E+00	2.0570E+01	2.6095E+01
M	4.4693E+02	7.4276E+02	1.0597E+03
A	1.8800E+01	2.6615E+01	3.3737E+01
S	2.5904E+00	2.6646E+00	2.7915E+00
Z	2.7900E+00	3.2054E+00	3.5116E+00
GAME	9.9877E-01	1.0765E+00	1.1197E+00
U	4.0351E+01	1.4622E+01	1.6129E+01

SPECIES	MOLE FRACTIONS
E-	3.0168E-01
HE	1.2499E-02
HE+	5.4221E-03
HE++	8.2626E-09
H	3.8354E-01
H+	2.9624E-01
H2	6.0037E-04
	3.9204E-01
	7.7037E-03
	7.8625E-03
	3.2572E-05
	2.3786E-01
	4.0541E-01
	4.3541E-01
	1.2269E-04

$$P_1 = 50 \text{ kN/m}^2$$

PI = 5.00E+04 N/SQ-M, USI = 6.20E+04 M/SEC				PI = 5.00E+04 N/SQ-M, USI = 6.80E+04 M/SEC			
MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK	MOVING SHOCK		STANDING SHOCK	REFLECTED SHOCK
P	2.8234E+03	1.4322E+04	2.8452E+04	P	3.3690E+03	1.6589E+04	3.4178E+04
T	1.3242E+02	2.1622E+02	3.1005E+02	T	1.4975E+02	2.5175E+02	3.7753E+02
RMD	7.4499E+00	2.0205E+01	2.5695E+01	RHI	7.3504E+00	1.9004E+01	2.4397E+01
M	4.7713E+02	7.9127E+02	1.1370E+03	M	5.7346E+02	9.4379E+02	1.3941E+03
A	1.9501E+01	2.7745E+01	3.5241E+01	A	2.1744E+01	3.1137E+01	3.9944E+01
S	2.8265E+00	2.7011E+00	2.8291E+00	S	2.7324E+00	2.9035E+00	2.9346E+00
Z	2.9626E+00	3.2703E+00	3.5713E+00	Z	3.0788E+00	3.4674E+00	3.7107E+00
GAME	1.0034E+00	1.0860E+00	1.1242E+00	GAME	1.0274E+00	1.1107E+00	1.1389E+00
U	4.1687E+01	1.5357E+01	1.6998E+01	U	4.5625E+01	1.7638E+01	1.9661E+01
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	3.1915E-01	4.0548E-01	4.5407E-01	E-	3.6689E-01	4.3773E-01	4.7452E-01
HE	1.1333E-02	7.1478E-03	4.7440E-03	HE	8.3135E-03	5.6411E-03	2.5154E-03
HE+	6.1370E-03	8.0459E-03	8.1676E-03	HE+	7.9253E-03	8.5027E-03	7.5101E-03
HE++	1.7876E-07	5.8031E-05	1.0888E-03	HE++	1.4316E-04	2.7648E-04	4.4489E-03
H	3.4987E-01	1.8167E-01	8.8122E-02	H	2.5766E-01	1.1904E-01	5.1860E-02
H+	3.1302E-01	2.9731E-01	4.4372E-01	H+	3.5896E-01	4.2967E-01	4.6012E-01
H2	4.9115E-04	2.9163E-04	9.4597E-05	H2	2.5307E-04	1.1723E-04	2.8117E-05

P1 = 5.00E+04 N/50-M, US1 = 7.00E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5869E+03	1.7290E+04	3.6056E+04
T	1.5615E+02	2.6456E+02	4.0271E+02
RHO	7.2914E+00	1.8533E+01	2.3997E+01
M	6.0745E+02	9.9658E+02	1.4718E+03
A	2.2582E+01	3.2253E+01	4.1572E+01
S	2.7675E+00	2.8359E+00	2.9685E+00
Z	3.1505E+00	3.5234E+00	3.7447E+00
GAPE	1.0366E+00	1.1169E+00	1.1454E+00
U	4.0000E+01	1.8442E+01	2.0594E+01

SPECIES	MOLE FRACTIONS
E-	3.8125E-01
HE	7.4852E-03
HE+	8.3824E-03
HE++	2.7170E-06
H	2.2981E-01
H+	3.7287E-01
H2	1.9760E-04
	4.4618E-01
	5.1483E-03
	8.6136E-03
	4.4090E-04
	1.0285E-01
	4.3668E-01
	8.5354E-05
	4.7955E-01
	1.8752E-03
	6.9963E-03
	4.4738E-02
	4.3449E-02
	4.6361E-01
	1.9451E-03

P1 = 5.00E+04 N/50-M, US1 = 6.40E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0070E+03	1.5095E+04	3.0342E+04
T	1.3798E+02	2.2740E+02	3.3179E+02
RHO	7.4249E+00	1.9835E+01	2.5244E+01
M	5.0820E+02	8.4103E+02	1.2173E+03
A	2.0232E+01	2.8867E+01	3.6047E+01
S	2.6423E+00	2.7359E+00	2.8643E+00
Z	2.9350E+00	3.3450E+00	3.6250E+00
GAPE	1.0100E+00	1.0940E+00	1.1289E+00
U	4.3010E+01	1.6092E+01	1.7905E+01

SPECIES	MOLE FRACTIONS
E-	3.3600E-01
HE	1.0230E-02
HE+	6.8054E-03
HE++	3.7199E-07
H	3.1730E-01
H+	3.2919E-01
H2	3.9721E-04
	4.1737E-01
	6.6347E-03
	8.2104E-03
	9.9772E-05
	1.5951E-01
	4.0896E-01
	2.1752E-04
	4.6212E-01
	3.9716E-03
	8.0922E-03
	1.7224E-03
	7.3449E-02
	4.5058E-01
	5.7905E-05

P1 = 5.00E+04 N/50-M, US1 = 6.60E+04 N/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1959E+03	1.5990E+04	3.2291E+04
T	1.4369E+02	2.3925E+02	3.5181E+02
RHO	7.3980E+00	1.9474E+01	2.4964E+01
M	5.4041E+02	8.9219E+02	1.2993E+03
A	2.0970E+01	2.9990E+01	3.8367E+01
S	2.4571E+00	2.7693E+00	2.9033E+00
Z	3.0044E+00	3.4078E+00	3.6700E+00
GAPE	1.0187E+00	1.1031E+00	1.1334E+00
U	4.4320E+01	1.6824E+01	1.8764E+01

SPECIES	MOLE FRACTIONS
E-	3.5170E-01
HE	9.2342E-03
HE+	7.3963E-03
HE++	7.3701E-07
H	2.8705E-01
H+	3.4430E-01
H2	3.1972E-04
	4.2795E-01
	6.1457E-03
	8.3592E-03
	1.6714E-04
	1.3794E-01
	4.1924E-01
	1.6151E-04
	4.6870E-01
	3.2333E-03
	7.8846E-03
	2.5067E-03
	6.1827E-02
	4.5581E-01
	4.0548E-05

Table III. - Continued

$$P_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+05 N/50-M, US1 = 4.30E+03 M/SEC				P1 = 1.00E+05 N/50-M, US1 = 7.00E+03 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1124E+01	2.3087E+01	5.6542E+01	P	3.4826E+01	1.2344E+02	2.3710E+02
T	2.6240E+00	3.5080E+00	4.9523E+00	T	6.4779E+00	9.2070E+00	1.1712E+01
RHO	3.9378E+00	6.5823E+00	1.1417E+01	RHO	5.3759E+00	1.3386E+01	2.0052E+01
M	2.8881E+00	3.6101E+00	5.1957E+00	M	6.5669E+00	1.3403E+01	1.4044E+01
A	1.6757E+00	1.8601E+00	2.1883E+00	A	2.4802E+00	2.9150E+00	3.2543E+00
S	1.0754E+00	1.0779E+00	1.1015E+00	S	1.1979E+00	1.2110E+00	1.2449E+00
Z	1.0000E+00	1.0000E+00	1.0000E+00	Z	1.0000E+00	1.0016E+00	1.3097E+00
GAME	9.9407E-01	9.8639E-01	9.6699E-01	GAME	9.4959E-01	9.2148E-01	8.9671E-01
U	2.3176E+00	1.3854E+00	1.2214E+00	U	4.4251E+00	1.7762E+00	1.6217E+00
E-	1.9396E-68	6.1510E-50	9.7868E-34	E-	5.8699E-21	1.1874E-14	1.2573E-11
HE	5.0000E-02	5.0000E-02	5.0000E-02	HE	4.9988E-02	4.9922E-02	4.9522E-02
HE+	1.2496E-71	1.1048E-60	2.5369E-51	HE+	2.2504E-44	2.4626E-32	9.4635E-26
HE++	0.	0.	0.	HE++	0.	0.	0.
H	3.0812E-12	4.1189E-10	9.6286E-07	H	9.0606E-05	3.1371E-03	1.9121E-02
H+	6.3440E-20	6.3440E-20	6.3440E-20	H+	6.9329E-20	1.1874E-14	1.2573E-11
H2	9.5000E-01	9.5000E-01	9.5000E-01	H2	9.4991E-01	9.4694E-01	9.3136E-01

P1 = 1.00E+05 N/5Q-M, US1 = 5.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.7520E+01	4.6583E+01	1.0224E+02
T	3.8703E+00	5.1619E+00	7.0489E+00
RMC	4.5267E+00	9.2226E+00	1.4504E+01
M	3.9996E+00	5.4332E+00	7.6525E+00
A	1.9491E+00	2.2312E+00	2.5803E+00
S	1.1176E+00	1.1237E+00	1.1517E+00
Z	1.0000E+00	1.0000E+00	1.0001E+00
GAME	9.8155E-01	9.447E-01	9.447E-01
U	3.0256E+00	1.5166E+00	1.3734E+00

SPECIES	MOLE FRACTIONS
E-	2.6121E-46
HE	5.0000E-02
HE+	3.8855E-59
HE++	0.
H	1.1189E-09
H+	6.3460E-20
H2	9.5000E-01

P1 = 1.00E+05 N/5Q-M, US1 = 6.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.5408E+01	7.9592E+01	1.6219E+02
T	5.0960E+00	7.0799E+00	9.3739E+00
RMC	4.9857E+00	1.1241E+01	1.7274E+01
M	5.3585E+00	2.6910E+00	1.0617E+01
A	2.2174E+00	2.5953E+00	2.9406E+00
S	1.1597E+00	1.1686E+00	1.1993E+00
Z	1.0000E+00	1.0001E+00	1.0016E+00
GAME	9.6515E-01	9.4396E-01	9.2095E-01
U	3.7252E+00	1.6507E+00	1.520E+00

SPECIES	MOLE FRACTIONS
E-	6.0659E-32
HE	5.0000E-02
HE+	1.3644E-50
HE++	0.
H	2.4351E-05
H+	6.3460E-20
H2	9.5000E-01

P1 = 1.00E+05 N/5Q-M, US1 = 8.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.5805E+01	1.8052E+02	3.2827E+02
T	7.9892E+00	1.1388E+01	1.3903E+01
RMC	5.7301E+00	1.5714E+01	2.2957E+01
M	8.8268E+00	1.3598E+01	1.7989E+01
A	2.7306E+00	3.2104E+00	3.5502E+00
S	1.2353E+00	1.2536E+00	1.2892E+00
Z	1.0006E+00	1.0089E+00	1.0286E+00
GAME	9.3278E-01	8.9717E-01	8.8380E-01
U	5.1286E+00	1.9696E+00	1.7066E+00

SPECIES	MOLE FRACTIONS
E-	1.2660E-16
HE	4.9962E-02
HE+	4.8077E-37
HE++	0.
H	1.1294E-13
H+	1.267E-16
H2	5.4990E-01

P1 = 1.00E+05 N/5Q-M, US1 = 9.00E+03 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.8417E+01	2.5378E+02	4.4024E+02
T	6.0916E+00	1.3473E+01	1.5989E+01
RMC	1.0942E+01	1.8354E+01	2.6031E+01
M	2.9558E+00	1.7294E+01	2.2449E+01
A	1.2711E+00	3.4941E+00	3.8652E+00
S	1.0033E+00	1.2950E+00	1.3333E+00
Z	1.0016E+00	1.0263E+00	1.0590E+00
GAME	9.1104E-01	8.8294E-01	8.8234E-01
U	5.8420E+00	1.9381E+00	1.7880E+00

SPECIES	MOLE FRACTIONS
E-	7.4442E-14
HE	4.9962E-02
HE+	4.1171E-31
HE++	0.
H	5.1172E-02
H+	7.4442E-14
H2	9.4359E-01

676

Table III. - Continued

$P_1 = 100 \text{ kN/m}^2$

P1 = 1.00E+05 N/SQ-M, US1 = 1.00E+04 M/SEC					P1 = 1.00E+05 N/SQ-M, US1 = 1.30E+04 M/SEC				
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	
P	7.2765E+01	3.4696E+02	5.9042E+02	P		1.2602E+02	7.5419E+02	1.2032E+03	
T	1.1075E+01	1.5465E+01	1.9069E+01	T		1.4982E+01	2.1356E+01	2.4923E+01	
RHO	6.4983E+00	2.1274E+01	2.9194E+01	RHO		7.9285E+00	2.9615E+01	3.7730E+01	
H	1.3315E+01	2.1507E+01	2.7521E+01	H		2.1769E+01	3.7057E+01	4.6682E+01	
A	3.1568E+00	3.7896E+00	4.2030E+00	A		3.7417E+00	4.8067E+00	5.4602E+00	
S	1.3066E+00	1.3364E+00	1.3779E+00	S		1.4105E+00	1.4620E+00	1.5146E+00	
Z	1.0111E+00	1.0546E+00	1.1003E+00	Z		1.0744E+00	1.1925E+00	1.2796E+00	
GAME	9.9997E-01	9.9009E-01	9.8954E-01	GAME		8.6973E-01	9.0725E-01	9.3488E-01	
U	6.5717E+00	2.0058E+00	1.9819E+00	U		9.8063E+00	2.3266E+00	2.3054E+00	
SPECIES				SPECIES					
----- MOLE FRACTIONS -----				----- MOLE FRACTIONS -----					
E-	6.1877E-12	7.6815E-09	1.0970E-07	E-		8.2229E-09	1.4643E-06	9.4482E-06	
HE	4.9453E-02	4.7412E-02	4.5442E-02	HE		4.6537E-02	4.1930E-02	3.9076E-02	
HF+	4.4150E-27	6.8457E-20	2.8843E-17	HE+		2.2248E-20	7.6035E-15	5.9674E-13	
HE++	0.	5.7326E-71	1.0507E-60	HE++		1.0989E-72	8.6711E-54	1.9388E-44	
H	2.1892E-02	1.0350E-01	1.8232E-01	H		1.3853E-01	3.2278E-01	4.3694E-01	
H+	6.1877E-12	7.6815E-09	1.0970E-07	H+		8.2229E-09	1.4643E-06	9.4482E-06	
H2	9.2866E-01	8.4909E-01	7.7224E-01	H2		8.1493E-01	6.3529E-01	5.2397E-01	

P1 = 1.00E+05 N/SQ-M, US1 = 1.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.9843E+01	4.6162E+02	7.5350E+02
T	1.2477E+01	1.7412E+01	2.0215E+01
RHO	6.5426E+00	2.4266E+01	3.2371E+01
H	1.5946E+01	2.6216E+01	3.2339E+01
A	3.3489E+00	4.1026E+00	4.5771E+00
S	1.3406E+00	1.3780E+00	1.4230E+00
Z	1.0258E+00	1.0926E+00	1.1515E+00
GAME	8.7647E-01	8.8478E-01	9.0003E-01
U	7.3127E+00	2.0914E+00	1.9968E+00

SPECIES	MOLE FRACTIONS
E-	1.3949E-10
HE	4.8752E-02
HE+	3.2195E-24
HE++	3.7362E-85
H	4.9925E-02
H+	1.3949E-10
H2	9.0132E-01
	6.5497E-03
	4.5763E-02
	7.5754E-19
	3.1159E-63
	1.6947E-01
	6.5497E-08
	7.9477E-01
	6.1856E-07
	6.9346E-01

P1 = 1.00E+05 N/SQ-M, US1 = 1.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0661E+02	5.9806E+02	9.6115E+02
T	1.3769E+01	1.9366E+01	2.2491E+01
RHO	7.3957E+00	2.7117E+01	3.5288E+01
H	1.9932E+01	3.1409E+01	3.9619E+01
A	3.5424E+00	4.4411E+00	4.9940E+00
S	1.3753E+00	1.4190E+00	1.4686E+00
Z	1.0469E+00	1.1390E+00	1.2116E+00
GAME	9.7050E-01	8.9437E-01	9.1565E-01
U	8.0594E+00	2.1960E+00	2.1359E+00

SPECIES	MOLE FRACTIONS
E-	1.3913E-09
HE	4.7759E-02
HE+	4.8772E-22
HE++	1.0858E-79
H	8.9647E-02
H+	1.3913E-09
H2	8.6259E-01
	3.5898E-07
	7.1210E-01
	3.5898E-07
	4.3900E-02
	3.3222E-16
	1.1027E-56
	2.4400E-01
	3.4924E-01
	3.2961E-49
	3.4289E-14
	4.1269E-02
	2.4561E-06

P1 = 1.00E+05 N/SQ-M, US1 = 1.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4701E+02	9.2755E+02	1.4780E+03
T	1.6144E+01	2.3421E+01	2.7597E+01
RHO	8.2226E+00	3.1633E+01	3.9556E+01
H	2.5357E+01	4.3145E+01	5.4435E+01
A	3.9491E+00	5.2021E+00	5.9811E+00
S	1.4461E+00	1.5040E+00	1.5606E+00
Z	1.1074E+00	1.2519E+00	1.3540E+00
GAME	9.7233E-01	9.2292E-01	9.5738E-01
U	9.5501E+00	2.4815E+00	2.5037E+00

SPECIES	MOLE FRACTIONS
E-	3.4706E-08
HE	4.5150E-02
HE+	4.9701E-19
HE++	3.3857E-67
H	1.9401E-01
H+	3.4706E-08
H2	7.6084E-01
	4.8752E-06
	3.9938E-02
	1.1381E-13
	3.7587E-47
	4.0246E-01
	5.2279E-01
	2.9288E-05
	5.5759E-01
	4.4022E-01

P1 = 1.00E+05 N/SQ-M, US1 = 1.50E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6954E+02	1.1149E+03	1.7847E+03
T	1.7279E+01	2.5590E+01	3.0607E+01
RHO	9.5645E+00	3.3100E+01	4.2667E+01
H	2.8994E+01	4.9653E+01	6.2939E+01
A	4.1667E+00	5.6296E+00	6.5680E+00
S	1.4822E+00	1.5458E+00	1.6069E+00
Z	1.1454E+00	1.3162E+00	1.4338E+00
GAME	8.7723E-01	9.4092E-01	9.8298E-01
U	1.0289E+01	2.6621E+00	2.7424E+00

SPECIES	MOLE FRACTIONS
E-	1.1671E-07
HE	4.3653E-02
HE+	7.1042E-18
HE++	5.7866E-64
H	2.5387E-01
H+	1.1671E-07
H2	7.0248E-01
	1.3979E-05
	3.7987E-02
	1.2148E-12
	1.5372E-43
	4.8049E-01
	2.0409E-36
	6.0489E-01
	8.2895E-05
	3.6008E-01

Table III. - Continued

$$p_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+05 N/SQ-M, US1 = 1.60E+04 M/SEC				P1 = 1.00E+05 N/SQ-M, US1 = 1.90E+04 M/SEC			
SPECIES	MOLE FRACTIONS			SPECIES	MOLE FRACTIONS		
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK		MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9358E+02	1.3126E+03	2.1206E+03	P	2.7449E+02	1.9249E+03	3.2821E+03
T	1.8405E+01	2.7895E+01	3.4011E+01	T	2.1890E+01	3.6056E+01	4.8126E+01
RHO	8.8547E+00	3.4000E+01	4.1154E+01	RHC	9.3709E+00	3.3540E+01	3.9232E+01
H	3.2879E+01	5.6567E+01	7.2206E+01	H	4.6011E+01	7.9524E+01	1.9515E+02
A	4.3958E+00	6.0908E+00	7.2155E+00	A	5.1684E+00	7.6825E+00	9.4834E+00
S	1.5187E+00	1.5871E+00	1.6520E+00	S	1.6297E+00	1.7060E+00	1.7821E+00
Z	1.1879E+00	1.3840E+00	1.5150E+00	Z	1.3382E+00	1.5917E+00	1.7383E+00
GAME	8.8386E-01	9.6094E-01	1.0104E+00	GAME	9.1202E-01	1.0284E+00	1.0750E+00
U	1.1022E+01	2.8686E+00	3.0186E+00	U	1.3181E+01	3.6792E+00	4.1345E+00
E-	3.3327E-07	3.5899E-05	2.1628E-04	E-	4.2223E-06	3.9485E-04	2.8493E-03
HE	4.2093E-02	3.6127E-02	3.3003E-02	HE	3.7365E-02	3.1412E-02	2.8763E-02
HE+	7.1850E-17	1.0260E-11	7.2687E-10	HE+	2.0372E-14	2.3578E-09	2.6936E-07
HE++	2.0036E-59	7.9618E-40	7.4070E-33	HE++	2.7032E-50	5.6453E-31	2.4481E-23
H	3.1629E-01	5.5479E-01	6.7922E-01	H	5.0539E-01	7.4233E-01	8.4093E-01
H+	3.3327E-07	3.5899E-05	2.1628E-04	H+	4.2223E-06	3.9485E-04	2.8493E-03
H2	6.4162E-01	4.0901E-01	2.8735E-01	H2	4.5723E-01	2.2546E-01	1.2461E-01

P1 = 1.00E+05 N/SQ-M, US1= 1.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1913E+02	1.5164E+03	2.4854E+03
T	1.9539E+01	3.0380E+01	3.8002E+01
RHO	9.0854E+00	3.4333E+01	4.0978E+01
H	3.7012E+01	6.3867E+01	8.2337E+01
A	4.6381E+00	6.5881E+00	7.9348E+00
S	1.5555E+00	1.6277E+00	1.6968E+00
Z	1.2344E+00	1.4539E+00	1.5960E+00
GAME	8.9193E-01	9.8269E-01	1.0391E+00
U	1.1750E+01	3.1070E+00	3.3467E+00

SPECIES	MOLE FRACTIONS
E-	8.4407E-07
HE	4.0505E-02
HE+	5.6280E-16
HE++	5.2000E-56
H	3.7990E-01
H+	8.4407E-07
H2	5.7969E-01
	9.4987E-05
	3.4391E-02
	7.1979E-11
	1.2252E-36
	6.2410E-01
	8.4887E-05
	3.4134E-01
	5.3919E-04
	2.2236E-01

P1 = 1.00E+05 N/SQ-M, US1= 1.80E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4610E+02	1.7219E+03	2.8739E+03
T	2.0699E+01	3.3093E+01	4.2683E+01
RHO	9.2569E+00	3.4158E+01	4.0277E+01
H	4.1391E+01	7.1526E+01	9.3315E+01
A	4.8951E+00	7.1194E+00	8.7031E+00
S	1.5925E+00	1.6674E+00	1.7405E+00
Z	1.2847E+00	1.5238E+00	1.6717E+00
GAME	9.0132E-01	1.0055E+00	1.0615E+00
U	1.2469E+01	3.3769E+00	3.7201E+00

SPECIES	MOLE FRACTIONS
E-	1.9530E-06
HE	3.8921E-02
HE+	3.6348E-15
HE++	5.3989E-53
H	4.4316E-01
H+	1.9530E-06
H2	5.1791E-01
	1.8799E-04
	3.2813E-02
	4.3615E-10
	1.0409E-33
	6.9690E-01
	1.8788E-04
	2.7991E-01
	1.2777E-03
	1.6774E-01

P1 = 1.00E+05 N/SQ-M, US1= 2.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.0426E+02	2.1204E+03	3.7022E+03
T	2.3141E+01	3.9343E+01	5.4228E+01
RHO	9.4292E+00	3.2554E+01	3.8059E+01
H	5.0887E+01	9.7829E+01	1.1776E+02
A	5.4606E+00	9.2679E+00	1.0227E+01
S	1.6668E+00	1.7413E+00	1.8216E+00
Z	1.3944E+00	1.6556E+00	1.7939E+00
GAME	9.2411E-01	1.0495E+00	1.0752E+00
U	1.3495E+01	4.0233E+00	4.5714E+00

SPECIES	MOLE FRACTIONS
E-	8.6838E-06
HE	3.5959E-02
HE+	1.0363E-13
HE++	1.7793E-47
H	5.6567E-01
H+	9.6808E-06
H2	3.9845E-01
	7.9132E-04
	3.0201E-02
	1.1535E-04
	2.0351E-24
	7.8958E-01
	7.9131E-04
	1.7963E-01
	5.4325E-03
	2.7871E-02
	1.4074E-06
	1.0229E-20
	9.4759E-01
	5.4310E-03
	9.2871E-02

P1 = 1.00E+05 N/SQ-M, US1= 2.10E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3536E+02	2.3363E+03	4.1233E+03
T	2.4468E+01	4.2983E+01	6.0696E+01
RHO	9.4339E+00	3.1317E+01	3.6927E+01
H	5.6001E+01	9.6431E+01	1.3097E+02
A	5.7737E+00	9.8614E+00	1.0935E+01
S	1.7337E+00	1.7791E+00	1.9597E+00
Z	1.4528E+00	1.7133E+00	1.8396E+00
GAME	9.3774E-01	1.0663E+00	1.0651E+00
U	1.4580E+01	4.3901E+00	5.0024E+00

SPECIES	MOLE FRACTIONS
E-	1.7196E-05
HE	3.4416E-02
HE+	4.9600E-13
HE++	5.0074E-45
H	6.2331E-01
H+	1.7186E-05
H2	3.4224E-01
	1.5292E-03
	2.9183E-02
	5.1402E-09
	4.9734E-26
	8.2939E-01
	1.5201E-03
	1.0715E-02
	7.0761E-02

Table III. - Continued

$$P_1 = 100 \text{ kN/ m}^2$$

P1 = 1.00E+05 N/SQ-M, US1= 2.20E+04 M/SEC					P1 = 1.00E+05 N/SQ-M, US1= 2.50E+04 M/SEC				
SPECIES	MOLE FRACTIONS				SPECIES	MOLE FRACTIONS			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK			MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK	
E-	3.3279E-05	2.9099E-03	1.7641E-02		E-	4.7199E+02	2.9173E+03	5.6352E+03	
HE	3.3047E-02	2.8350E-02	2.6597E-02		T	3.1181E+01	6.7335E+01	8.5307E+01	
HE+	2.1946E-12	2.0632E-07	1.9269E-05		RHC	8.9563E+00	2.5799E+01	3.3143E+01	
HE++	1.6655E-42	8.0989E-24	1.0958E-16		H	7.8852E+01	1.3357E+02	1.8713E+02	
H	6.7803E-01	9.5755E-01	8.8250E-01		A	7.5024E+00	1.0957E+01	1.3125E+01	
H+	3.3279E-05	2.8096E-03	1.7623E-02		S	1.8463E+00	1.9081E+00	1.9870E+00	
H2	2.8896E-01	1.0949E-01	5.5619E-02		Z	1.6897E+00	1.9742E+00	1.9826E+00	
					GAME	1.0121E+00	1.2617E+00	1.0186E+00	
					U	1.7248E+01	5.9911E+00	6.3824E+00	

P1 = 1.00E+05 N/SQ-M, US1 = 2.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.0864E+02	3.0412E+03	5.8903E+03
T	3.342E+01	6.4937E+01	9.0733E+01
RHO	8.726E+00	2.4611E+01	3.2189E+01
H	8.5149E+01	1.4361E+02	2.0173E+02
A	7.7681E+00	1.1391E+01	1.3609E+01
S	1.8796E+00	1.9374E+00	2.0162E+00
Z	1.7429E+00	1.9029E+00	2.0168E+00
GAME	1.0353E+00	1.0501E+00	1.0121E+00
U	1.7879E+01	6.3367E+00	6.6481E+00

SPECIES	MOLE FRACTIONS
E-	4.2458E-04
HE	2.8688E-02
HE+	7.9888E-10
HE++	5.8039E-33
H	8.5120E-01
H+	4.2458E-04
H2	1.1926E-01

P1 = 1.00E+05 N/SQ-M, US1 = 2.70E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	5.4620E+02	3.1546E+03	6.1313E+03
T	3.6043E+01	6.9412E+01	9.5829E+01
RHC	8.4654E+00	2.3549E+01	3.1152E+01
H	9.1669E+01	1.5396E+02	2.1641E+02
A	8.2606E+00	1.1798E+01	1.4070E+01
S	1.9116E+00	1.9655E+00	2.0446E+00
Z	1.7901E+00	1.9299E+00	2.2512E+00
GAME	1.0576E+00	1.0390E+00	1.0371E+00
U	1.8491E+01	6.6437E+00	6.8921E+00

SPECIES	MOLE FRACTIONS
E-	8.3486E-04
HE	2.7532E-02
HE+	3.5890E-09
HE++	1.4516E-30
H	8.8032E-01
H+	8.0486E-04
H2	9.0137E-02

P1 = 1.00E+05 N/SQ-M, US1 = 2.30E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.0137E+02	2.6393E+03	4.9239E+03
T	2.7463E+01	5.1278E+01	7.3532E+01
RHO	9.2923E+00	2.8491E+01	3.4980E+01
H	6.6953E+01	1.1445E+02	1.5859E+02
A	6.4746E+00	9.9911E+00	1.2048E+01
S	1.7763E+00	1.8465E+00	1.9259E+00
Z	1.5728E+00	1.8065E+00	1.9143E+00
GAME	9.7053E-01	1.0776E+00	1.0381E+00
U	1.5940E+01	5.1961E+00	5.7721E+00

SPECIES	MOLE FRACTIONS
E-	6.2941E-05
HE	3.1790E-02
HE+	9.4772E-12
HE++	4.0293E-40
H	7.2819E-01
H+	6.2941E-05
H2	2.3999E-01

P1 = 1.00E+05 N/SQ-M, US1 = 2.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	4.3609E+02	2.7951E+03	5.2799E+03
T	2.9209E+01	5.5753E+01	7.9492E+01
RHO	9.1457E+00	2.7110E+01	3.4095E+01
H	7.2786E+01	1.2387E+02	1.7269E+02
A	6.8715E+00	1.0494E+01	1.2613E+01
S	1.8118E+00	1.8779E+00	1.9565E+00
Z	1.6325E+00	1.8426E+00	1.9480E+00
GAME	9.9023E-01	1.0719E+00	1.0273E+00
U	1.6601E+01	5.5999E+00	6.0457E+00

SPECIES	MOLE FRACTIONS
E-	1.1887E-04
HE	3.0623E-02
HE+	4.1118E-11
HE++	9.4830E-39
H	7.7451E-01
H+	1.1887E-04
H2	1.9463E-01

Table III. - Continued

$$P_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+05 N/SQ-M, US1 = 2.80E+C4 M/SEC				P1 = 1.00E+05 N/SQ-M, US1 = 3.20E+C4 M/SEC			
MOVING SHOCK				MOVING SHOCK			
STANDING SHOCK				STANDING SHOCK			
REFLECTED SHOCK				REFLECTED SHOCK			
P	T	RHO	M	P	T	RHO	M
5.8466E+02	3.2567E+03	6.3423E+03	1.0073E+02	7.5035E+02	3.7445E+03	7.2009E+03	1.1999E+02
3.9017E+01	7.3853E+01	1.0073E+02	3.0189E+01	5.3335E+01	9.3633E+01	1.1999E+02	1.1999E+02
8.1887E+00	2.2532E+01	2.2532E+01	2.3136E+02	7.2925E+00	1.0964E+01	2.0469E+02	2.0469E+02
9.8415E+01	1.6458E+02	2.3136E+02	1.4518E+01	1.2773E+02	2.1109E+02	1.6274E+01	2.1750E+00
8.7609E+00	1.2196E+01	1.4518E+01	2.0726E+03	1.0420E+01	1.3732E+01	2.0469E+02	2.0469E+02
1.9421E+00	1.9936E+00	2.0726E+03	2.0963E+00	2.0493E+00	2.0962E+00	2.1750E+00	2.1750E+00
1.8300E+00	1.9571E+00	2.0963E+00	1.0033E+00	1.9292E+00	2.0694E+00	2.2322E+00	2.2322E+00
1.0750E+00	1.0292E+00	1.0033E+00	7.1048E+00	1.0553E+00	1.0053E+00	9.9714E-01	9.9714E-01
1.9089E+01	6.9330E+00	7.1048E+00		2.1444E+01	7.8277E+00	7.8902E+00	7.8902E+00
SPECIES				SPECIES			
MOLE FRACTIONS				MOLE FRACTIONS			
E-	1.5123E-03	3.3203E-02	8.5699E-02	E-	1.2099E-02	7.4185E-02	1.3957E-01
HE	2.7323E-02	2.5490E-02	2.3272E-02	HE	2.5916E-02	2.3780E-02	2.0451E-02
HE+	1.5992E-08	5.8675E-05	6.9398E-04	HE+	2.2268E-06	3.3112E-04	1.9493E-03
HE++	3.3120E-28	5.5586E-15	5.6572E-14	HE++	1.9326E-20	4.5963E-12	3.2610E-09
H	9.0256E-01	9.7852E-01	7.557E-01	H	9.2699E-01	8.1139E-01	6.9027E-01
H+	1.5123E-03	3.3145E-02	4.805E-02	H+	1.2097E-02	7.3904E-02	1.3662E-01
H2	6.7097E-02	2.9584E-02	.0158E-02	H2	2.2897E-02	1.6469E-02	1.2141E-02

P1 = 1.00E+05 N/SQ-M, US1= 2.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.2412E+02	3.3608E+03	6.5345E+03
T	4.2334E+01	7.8151E+01	1.0533E+02
RHC	7.9162E+00	2.1674E+01	2.9231E+01
H	1.0539E+02	1.7557E+02	2.4651E+02
A	9.2404E+00	1.2583E+01	1.4955E+01
S	1.9710E+00	2.0205E+00	2.0999E+00
Z	1.8623E+00	1.9941E+00	2.1218E+00
GAME	1.0831E+00	1.0210E+00	1.0005E+00
U	1.9676E+01	7.1819E+00	7.3076E+00

SPECIES	MOLE FRACTIONS
E-	2.7642E-03
HE	2.6848E-02
HE+	6.6268E-08
HE++	5.9910E-26
H	9.1778E-01
H+	2.7641E-03
H2	4.9839E-02

P1 = 1.00E+05 N/SQ-M, US1= 3.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	6.6472E+02	3.4721E+03	6.7294E+03
T	4.5906E+01	8.2358E+01	1.0990E+02
RHO	7.6684E+00	2.0956E+01	2.8377E+01
H	1.1259E+02	1.8696E+02	2.8200E+02
A	9.6778E+00	1.2965E+01	1.5399E+01
S	1.9983E+00	2.0465E+00	2.1266E+00
Z	1.8993E+00	2.0118E+00	2.1579E+00
GAME	1.0805E+00	1.0145E+00	9.9863E-01
U	2.0260E+01	7.4096E+00	7.5000E+00

SPECIES	MOLE FRACTIONS
E-	4.9159E-03
HE	2.6479E-02
HE+	2.4753E-07
HE++	7.0497E-24
H	9.2640E-01
H+	4.8155E-03
H2	3.7494E-02

P1 = 1.00E+05 N/SQ-M, US1= 3.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	8.4281E+02	4.0973E+03	7.8284E+03
T	6.3589E+01	9.8443E+01	1.2837E+02
RHC	7.0744E+00	1.9454E+01	2.6407E+01
H	1.4390E+02	2.3720E+02	3.3012E+02
A	1.1043E+01	1.4512E+01	1.7207E+01
S	2.0946E+00	2.1428E+00	2.2269E+00
Z	1.9663E+00	2.1309E+00	2.3099E+00
GAME	1.0274E+00	9.9995E-01	9.9853E-01
U	2.2673E+01	9.2437E+00	9.2987E+00

SPECIES	MOLE FRACTIONS
E-	2.3882E-02
HE	2.5417E-02
HE+	1.1447E-05
HE++	6.9340E-19
H	9.1124E-01
H+	2.3970E-02
H2	1.5584E-02

P1 = 1.00E+05 N/SQ-M, US1= 3.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	9.4244E+02	4.5312E+03	8.6132E+03
T	6.7417E+01	1.0709E+02	1.3819E+02
RHO	6.9690E+00	1.9270E+01	2.6372E+01
H	1.6111E+02	2.6538E+02	3.8854E+02
A	1.1673E+01	1.5314E+01	1.4200E+01
S	2.1375E+00	2.1872E+00	2.2743E+00
Z	2.0059E+00	2.1959E+00	2.3007E+00
GAME	1.0076E+00	9.9730E-01	1.0026E+00
U	2.3947E+01	9.6553E+00	9.7396E+00

SPECIES	MOLE FRACTIONS
E-	3.9395E-02
HE	2.4987E-02
HE+	3.8892E-05
HE++	5.6245E-16
H	8.8481E-01
H+	9.9356E-02
H2	1.1508E-02

$$p_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	7.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.4074E+03	6.8040E+03	1.2918E+04
T	9.1596E+01	1.4071E+02	1.3273E+02
RMH	6.9718E+01	1.9491E+01	2.5816E+01
H	2.4019E+02	3.9647E+02	5.5212E+02
A	1.4089E+01	1.8755E+01	2.2749E+01
S	2.2950E+00	2.3525E+00	2.4520E+00
Z	2.2039E+00	2.4810E+00	2.7385E+00
GAME	9.8329E-01	1.0075E+00	1.0342E+00
U	2.927CE+01	1.0465E+01	1.0841E+01

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E+01	1.9260E+01
S	2.1786E+00	2.2301E+00	2.3201E+00
Z	2.0498E+00	2.2637E+00	2.4751E+00
GAME	9.9544E-01	9.9684E-01	1.0097E+00
U	2.5252E+01	9.0967E+00	9.2183E+00

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.0489E+03	5.0230E+03	9.5283E+03
T	1.3864E+01	1.4854E+02	1.4854E+02
RMH	6.9275E+00	1.0240E+01	2.5919E+01
H	1.7935E+02	2.9541E+02	4.0100E+02
A	1.2277E+01	1.6132E	

P1 = 1.00E+05 N/SQ-M, US1 = 4.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.5393E+03	7.4674E+03	1.4230E+04
T	9.7198E+01	1.4946E+02	1.9552E+02
RHC	7.0036E+00	1.9544E+01	2.5724E+01
H	2.6246E+02	4.3345E+02	6.0532E+02
A	1.4700E+01	1.9685E+01	2.4026E+01
S	2.3323E+00	2.3918E+00	2.4954E+00
Z	2.2613E+00	2.5564E+00	2.8293E+00
GAME	9.8317E-01	1.0142E+00	1.0435E+00
U	3.0624E+01	1.0969E+01	1.1452E+01

SPECIES ----- MOLE FRACTIONS -----

E-	1.4179E-01	2.4140E-01	3.1341E-01
HE	2.1084E-02	1.4764E-02	1.1747E-02
HE+	1.7027E-03	4.7939E-03	5.9178E-03
HE++	8.9949E-11	2.8915E-07	7.7577E-06
H	6.9122E-01	4.9825E-01	3.5880E-01
H+	1.4078E-01	2.3660E-01	3.0748E-01
H2	4.1248E-03	4.1952E-03	2.6304E-03

P1 = 1.00E+05 N/SQ-M, US1 = 4.90E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.6774E+03	8.1615E+03	1.5636E+04
T	1.0270E+02	1.5844E+02	2.0900E+02
RHC	7.0386E+00	1.9566E+01	2.5632E+01
H	2.8575E+02	4.7204E+02	6.6176E+02
A	1.5314E+01	2.0644E+01	2.5341E+01
S	2.3696E+00	2.4305E+00	2.5376E+00
Z	2.3205E+00	2.6327E+00	2.9187E+00
GAME	9.8407E-01	1.0217E+00	1.0527E+00
U	3.1983E+01	1.1500E+01	1.2113E+01

SPECIES ----- MOLE FRACTIONS -----

E-	1.6316E-01	2.6280E-01	3.3397E-01
HE	2.0060E-02	1.3678E-02	1.1013E-02
HE+	1.4872E-03	5.3131E-03	6.1018E-03
HE++	3.8009E-10	6.9201E-07	1.6109E-05
H	6.5014E-01	4.5726E-01	3.1901E-01
H+	1.6167E-01	2.5749E-01	3.2793E-01
H2	3.4854E-03	3.4692E-03	2.0644E-03

P1 = 1.00E+05 N/SQ-M, US1 = 4.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.1620E+03	5.5765E+03	1.0558E+04
T	7.9994E+01	1.2369E+02	1.5938E+02
RHC	6.9254E+00	1.9315E+01	2.5862E+01
H	1.9861E+02	3.2742E+02	4.5455E+02
A	1.2879E+01	1.6979E+01	2.0374E+01
S	2.2183E+00	2.2719E+00	2.3650E+00
Z	2.0977E+00	2.3342E+00	2.5616E+00
GAME	9.8848E-01	9.9848E-01	1.0167E+00
U	2.6596E+01	9.5251E+00	9.7204E+00

SPECIES ----- MOLE FRACTIONS -----

E-	7.7610E-02	1.7183E-01	2.4390E-01
HE	2.3622E-02	1.8754E-02	1.4626E-02
HE+	2.1323E-04	2.6600E-03	4.9932E-03
HE++	2.6305E-13	1.0027E-08	5.8257E-07
H	8.1396E-01	6.3035E-01	4.9243E-01
H+	7.7357E-02	1.6917E-01	2.3900E-01
H2	7.1928E-03	7.2294E-03	5.1512E-03

P1 = 1.00E+05 N/SQ-M, US1 = 4.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.2816E+03	6.1693E+03	1.1691E+04
T	9.5877E+01	1.3217E+02	1.7080E+02
RHC	6.9436E+00	1.5348E+01	2.5830E+01
H	2.1889E+02	3.6105E+02	5.0180E+02
A	1.3482E+01	1.7857E+01	2.1543E+01
S	2.2570E+00	2.3130E+00	2.4082E+00
Z	2.1493E+00	2.4074E+00	2.6500E+00
GAME	9.8483E-01	1.0021E+00	1.0254E+00
U	2.7921E+01	9.9939E+00	1.0262E+01

SPECIES ----- MOLE FRACTIONS -----

E-	9.8618E-02	1.9403E-01	2.6831E-01
HE	2.2868E-02	1.7326E-02	1.3519E-02
HE+	3.9589E-04	3.4433E-03	5.3470E-03
HE++	2.5287E-12	3.6097E-08	1.5015E-06
H	7.7399E-01	5.9466E-01	4.4572E-01
H+	9.8222E-01	1.9255E-01	2.6296E-01
H2	5.9056E-03	6.0159E-03	4.1499E-03

$p_1 = 100 \text{ kN/m}^2$

PI = 1.00E+05 N/SG-M, USI = 5.60E+04 M/SEC			
	MOVING SMOCK	STANDING SMOCK	REFLECTED SMOCK
P	1.8211E+03	8.4663E+03	1.7094E+04
T	1.0821E+02	1.6761E+02	2.3161E+02
RMC	7.0635E+00	1.9524E+01	2.5483E+01
M	3.1002E+02	5.1202E+02	7.2083E+02
A	1.5942E+01	2.1624E+01	3.6691E+01
S	2.4058E+00	2.4685E+00	2.5790E+00
Z	2.3824E+00	2.7094E+00	3.0062E+00
GAME	9.8504E-01	1.0297E+00	1.0619E+00
U	3.3333E+01	1.2055E+01	1.2795E+01
SPECIES	MOLE FRACTIONS		
E-	1.8444E-01	2.8314E-01	3.5294E-01
ME	1.9944E-02	1.2729E-02	1.0343E-02
ME+	2.0436E-03	5.7234E-03	6.2578E-03
ME++	1.3780E-09	1.5159E-06	3.1728E-05
M	6.0923E-01	4.1814E-01	2.9220E-01
H+	1.8240E-01	2.7741E-01	3.4662E-01
H2	2.9452E-03	2.9599E-03	1.6046E-03

PI = 1.00E+05 N/SQ-M, US1 = 5.93E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.4532E+03	1.1931E+04	2.3572E+04
T	1.3043E+02	2.0722E+02	2.8865E+02
RHO	7.1155E+00	1.8969E+01	2.4592E+01
M	4.1695E+02	6.8636E+02	9.8503E+02
A	1.8574E+01	2.5747E+01	3.2418E+01
S	2.5487E+00	2.6145E+00	2.7358E+00
Z	2.6414E+00	3.0101E+00	3.3220E+00
GAME	1.0012E+00	1.0678E+00	1.0944E+00
U	3.9717E+01	1.4523E+01	1.5766E+01

SPECIES	MOLE FRACTIONS
E-	2.6341E-01
HE	1.4111E-02
ME+	9.9316E-03
HE+	4.7340E-03
H	1.517E-05
M+	7.2624E-08
M+	4.5748E-01
M+	2.5868E-01
M+	1.5039E-03
M+	1.2346E-03
M+	4.1355E-01
M+	7.8031E-03
M+	6.9228E-03
M+	3.2499E-04
M+	1.6489E-01
M+	4.0598E-01
M+	5.3559E-04

PI = 1.00E+05 N/SQ-M, US1 = 6.11E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.6250E+03	1.2590E+04	2.5226E+04
T	1.3619E+02	2.1754E+02	3.0761E+02
RHO	7.1145E+00	1.8733E+01	2.4287E+01
M	4.4617E+02	7.3324E+02	1.0598E+03
A	1.9276E+01	2.6918E+01	3.3915E+01
S	2.5836E+00	2.6494E+00	2.7731E+00
Z	2.7091E+00	3.0913E+00	3.3900E+00
GAME	1.0071E+00	1.0713E+00	1.1030E+00
U	4.0047E+01	1.5199E+01	1.6612E+01

SPECIES	MOLE FRACTIONS
E-	2.8146E-01
HE	1.3071E-02
ME+	5.3851E-03
HE+	1.5939E-07
H	4.2276E-01
M+	2.7607E-01
M+	1.2619E-03
M+	3.6814E-01
M+	9.3829E-03
M+	6.8100E-03
M+	3.3907E-05
M+	2.5334E-01
M+	3.6127E-01
M+	7.8515E-04
M+	4.2517E-01
M+	7.0947E-01
M+	7.1222E-03
M+	5.3256E-04
M+	1.4269E-01
M+	4.1699E-01
M+	3.9866E-04

PI = 1.00E+05 N/SQ-M, US1 = 5.20E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	1.9707E+03	9.5944E+03	1.8619E+04
T	1.1370E+02	1.7699E+02	2.3803E+02
RHO	7.0875E+00	1.9464E+01	2.5313E+01
M	3.3528E+02	5.5354E+02	7.8240E+02
A	1.6578E+01	2.2619E+01	2.8066E+01
S	2.4420E+00	2.5055E+00	2.6191E+00
Z	2.4455E+00	2.7851E+00	3.0902E+00
GAME	9.8843E-01	1.0379E+00	1.0709E+00
U	3.4686E+01	1.2634E+01	1.3472E+01

SPECIES	MOLE FRACTIONS
E-	2.0511E-01
HE	1.7774E-02
ME+	6.0393E-03
HE+	4.3299E-09
H	5.6951E-01
M+	2.0244E-01
M+	2.9616E-01
M+	2.3495E-03
M+	3.7021E-01
M+	9.7164E-03
M+	6.4042E-03
M+	5.9624E-05
M+	2.4868E-01
M+	3.6369E-01
M+	1.2394E-03

PI = 1.00E+05 N/SQ-M, US1 = 5.40E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.1260E+03	1.0330E+04	2.0230E+04
T	1.1921E+02	1.4679E+02	2.5406E+02
RHO	7.1054E+00	1.9324E+01	2.5131E+01
M	3.6157E+02	5.9641E+02	8.4787E+02
A	1.7227E+01	2.3649E+01	2.8507E+01
S	2.4776E+00	2.5427E+00	2.6591E+00
Z	2.5099E+00	2.9619E+00	3.1723E+00
GAME	9.5185E-01	1.0463E+00	1.0798E+00
U	3.6030E+01	1.3251E+01	1.4245E+01

SPECIES	MOLE FRACTIONS
E-	2.7520E-01
HE	1.6571E-02
ME+	3.3496E-03
HE+	1.2155E-08
H	5.3052E-01
M+	2.4195E-01
M+	2.1122E-03
M+	3.2054E-01
M+	1.1173E-02
M+	6.2919E-03
M+	6.0012E-06
M+	3.4545E-01
M+	3.1424E-01
M+	1.9062E-03
M+	4.0116E-01
M+	1.0916E-04
M+	2.1757E-01
M+	3.7947E-01
M+	9.4338E-04

$$p_1 = 100 \text{ kN/m}^2$$

P1 = 1.00E+05 N/5Q-M, US1 = 6.8FE+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3635E+03	1.550CE+04	3.2514E+04
T	1.6098E+02	2.6493E+02	3.9349E+02
RHC	7.0146E+00	1.7525E+01	2.2+03E+01
M	5.7240E+02	9.3265E+02	1.3797E+03
A	2.2289E+01	3.1202E+01	3.9994E+01
S	2.7195E+00	2.7828E+00	3.9128E+00
Z	2.9791E+00	3.3384E+00	3.6078E+00
GAME	1.0336QE+00	1.1009E+00	1.1269E+00
U	4.5282E+01	1.8111E+01	1.9981E+01

P1 = 1.00E+05 N/5Q-M, US1 = 6.8FE+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3635E+03	1.550CE+04	3.2514E+04
T	1.6098E+02	2.6493E+02	3.9349E+02
RHC	7.0146E+00	1.7525E+01	2.2+03E+01
M	5.7240E+02	9.3265E+02	1.3797E+03
A	2.2289E+01	3.1202E+01	3.9994E+01
S	2.7195E+00	2.7828E+00	3.9128E+00
Z	2.9791E+00	3.3384E+00	3.6078E+00
GAME	1.0336QE+00	1.1009E+00	1.1269E+00
U	4.5282E+01	1.8111E+01	1.9981E+01

P1 = 1.00E+05 N/5Q-M, US1 = 6.8FE+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3635E+03	1.550CE+04	3.2514E+04
T	1.6098E+02	2.6493E+02	3.9349E+02
RHC	7.0146E+00	1.7525E+01	2.2+03E+01
M	5.7240E+02	9.3265E+02	1.3797E+03
A	2.2289E+01	3.1202E+01	3.9994E+01
S	2.7195E+00	2.7828E+00	3.9128E+00
Z	2.9791E+00	3.3384E+00	3.6078E+00
GAME	1.0336QE+00	1.1009E+00	1.1269E+00
U	4.5282E+01	1.8111E+01	1.9981E+01

P1 = 1.00E+05 N/5Q-M, US1 = 6.8FE+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3635E+03	1.550CE+04	3.2514E+04
T	1.6098E+02	2.6493E+02	3.9349E+02
RHC	7.0146E+00	1.7525E+01	2.2+03E+01
M	5.7240E+02	9.3265E+02	1.3797E+03
A	2.2289E+01	3.1202E+01	3.9994E+01
S	2.7195E+00	2.7828E+00	3.9128E+00
Z	2.9791E+00	3.3384E+00	3.6078E+00
GAME	1.0336QE+00	1.1009E+00	1.1269E+00
U	4.5282E+01	1.8111E+01	1.9981E+01

P1 = 1.00E+05 N/5Q-M, US1 = 6.8FE+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3635E+03	1.550CE+04	3.2514E+04
T	1.6098E+02	2.6493E+02	3.9349E+02
RHC	7.0146E+00	1.7525E+01	2.2+03E+01
M	5.7240E+02	9.3265E+02	1.3797E+03
A	2.2289E+01	3.1202E+01	3.9994E+01
S	2.7195E+00	2.7828E+00	3.9128E+00
Z	2.9791E+00	3.3384E+00	3.6078E+00
GAME	1.0336QE+00	1.1009E+00	1.1269E+00
U	4.5282E+01	1.8111E+01	1.9981E+01

P1 = 1.00E+05 N/5Q-M, US1 = 6.8FE+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.3635E+03	1.550CE+04	3.2514E+04
T	1.6098E+02	2.6493E+02	3.9349E+02
RHC	7.0146E+00	1.7525E+01	2.2+03E+01
M	5.7240E+02	9.3265E+02	1.3797E+03
A	2.2289E+01	3.1202E+01	3.9994E+01
S	2.7195E+00	2.7828E+00	3.9128E+00
Z	2.9791E+00	3.3384E+00	3.6078E+00
GAME	1.0336QE+00	1.1009E+00	1.1269E+00
U	4.5282E+01	1.8111E+01	1.9981E+01

P1 = 1.00E+05 N/5Q-M, US1 = 6.8FE+C4 M/SEC			
	MOVING SHOCK	STANDING SHOCK	REFLECT

P1 = 1.00E+05 N/SQ-M, US1= 7.00E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.5605E+03	1.6198E+04	3.4316E+04
T	1.6771E+02	2.7778E+02	4.1712E+02
RHO	6.9711E+00	1.7182E+01	2.2547E+01
H	6.0635E+02	9.8531E+02	1.4652E+03
A	2.3094E+01	3.2304E+01	4.1526E+01
S	2.7524E+00	2.8144E+00	2.9446E+00
Z	3.0454E+00	3.3939E+00	3.6488E+00
GAME	1.0442E+00	1.1069E+00	1.1330E+00
U	4.6565E+01	1.8880E+01	2.0812E+01

SPECIES	MOLE FRACTIONS
E-	3.6018E-01
HE	8.7170E-03
HE+	7.6970E-03
HE++	4.3279E-06
H	2.7045E-01
H+	3.5247E-01
H2	4.7978E-04

P1 = 1.00E+05 N/SQ-M, US1= 6.60E+04 M/SEC

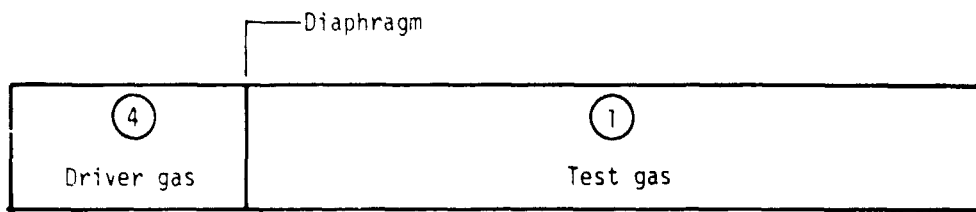
	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	2.9842E+03	1.4053E+04	2.8881E+04
T	1.4818E+02	2.4065E+02	3.4804E+02
RHO	7.0802E+00	1.8153E+01	2.3655E+01
H	5.0735E+02	8.3053E+02	1.2143E+03
A	2.3741E+01	2.9005E+01	3.6996E+01
S	2.6523E+00	2.7179E+00	2.8438E+00
Z	2.9443E+00	3.2169E+00	3.5090E+00
GAME	1.0207E+00	1.0867E+00	1.1150E+00
U	4.2644E+01	1.6039E+01	1.9252E+01

SPECIES	MOLE FRACTIONS
E-	3.1530E-01
HE	1.1367E-02
HE+	6.5113E-03
HE++	6.5235E-07
H	3.5745E-01
H+	3.8715E-01
H2	8.7451E-04

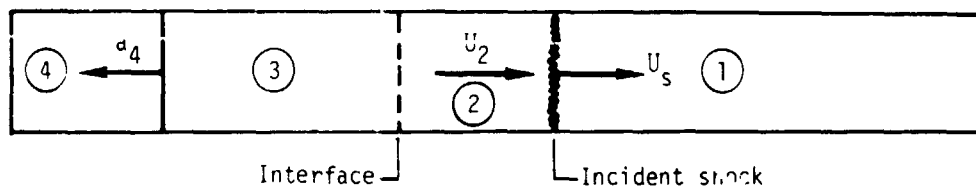
P1 = 1.00E+05 N/SQ-M, US1= 6.60E+04 M/SEC

	MOVING SHOCK	STANDING SHOCK	REFLECTED SHOCK
P	3.1714E+03	1.4775E+04	3.0688E+04
T	1.5446E+02	2.5246E+02	3.7031E+02
RHO	7.0513E+00	1.7849E+01	2.3274E+01
H	5.3541E+02	9.9070E+02	1.2955E+03
A	2.1504E+01	3.0052E+01	3.8443E+01
S	2.6861E+00	2.7504E+00	2.8790E+00
Z	2.9119E+00	3.2788E+00	3.5608E+00
GAME	1.0242E+00	1.0939E+00	1.1204E+00
U	4.3989E+01	1.7387E+01	1.9088E+01

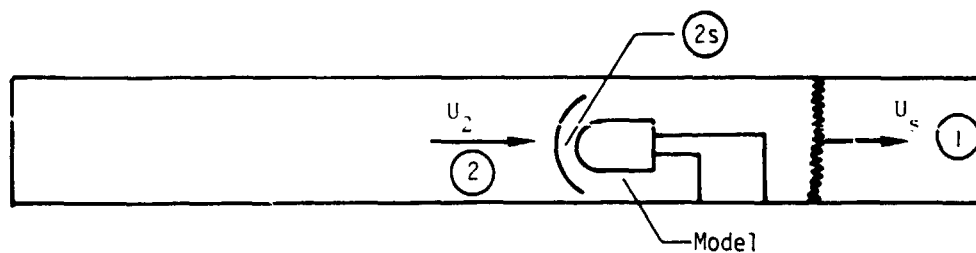
SPECIES	MOLE FRACTIONS
E-	3.3106E-01
HE	1.0198E-02
HE+	6.9717E-03
HE++	1.2358E-06
H	3.2695E-01
H+	3.2699E-01
H2	7.2115E-04



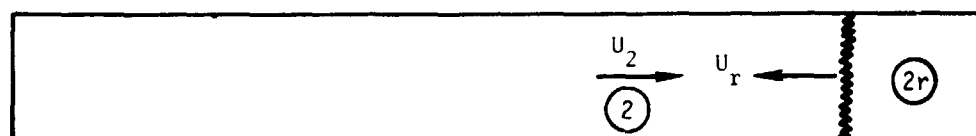
(a) Prior to diaphragm rupture.



(b) Incident (moving) normal shock in test gas.



(c) Standing normal shock at test model.

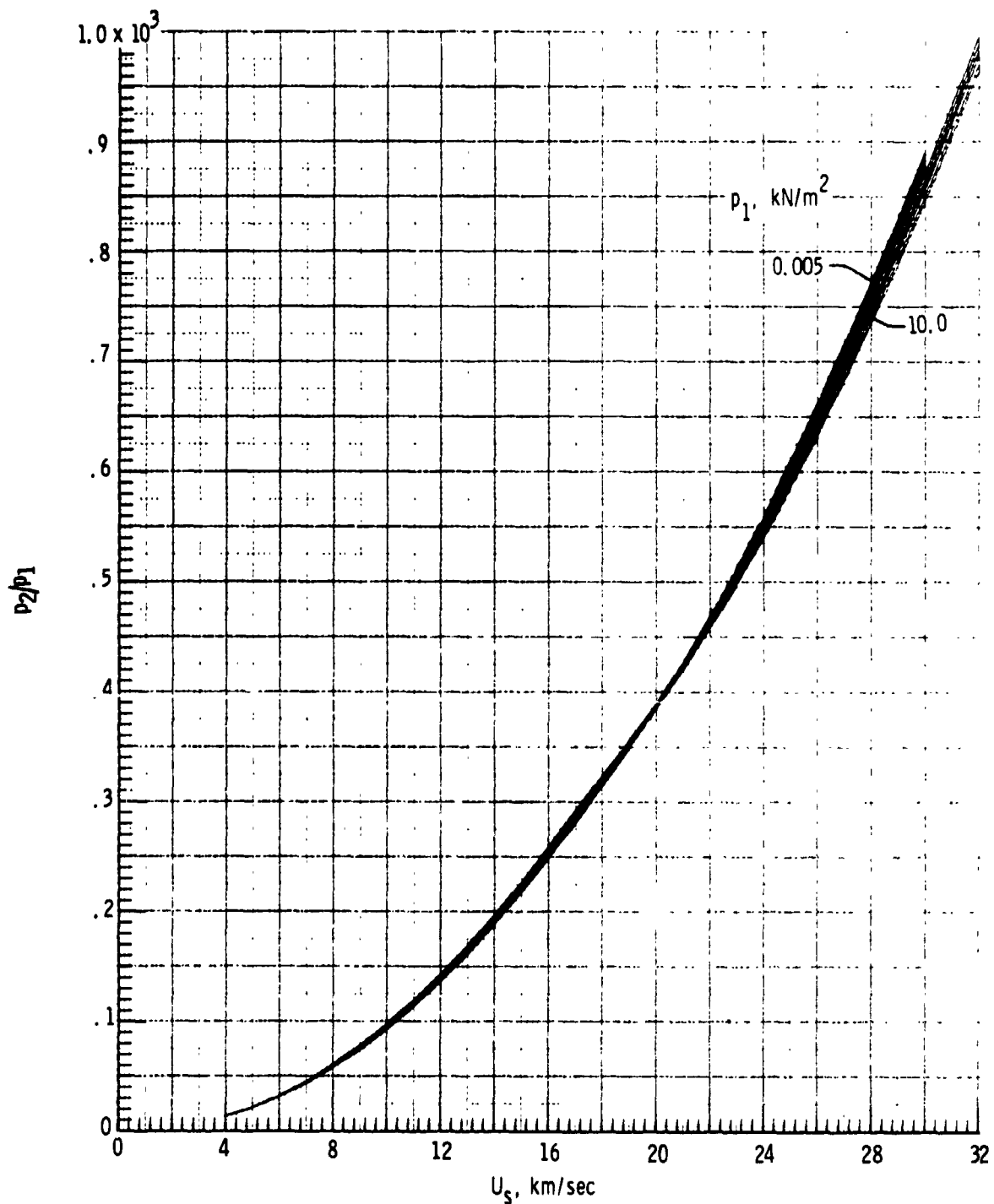


(d) Reflected normal shock from end wall.

Figure 1.- Sketches illustrating shock-tube regions of interest: Regions ②, ②s, and ②r.

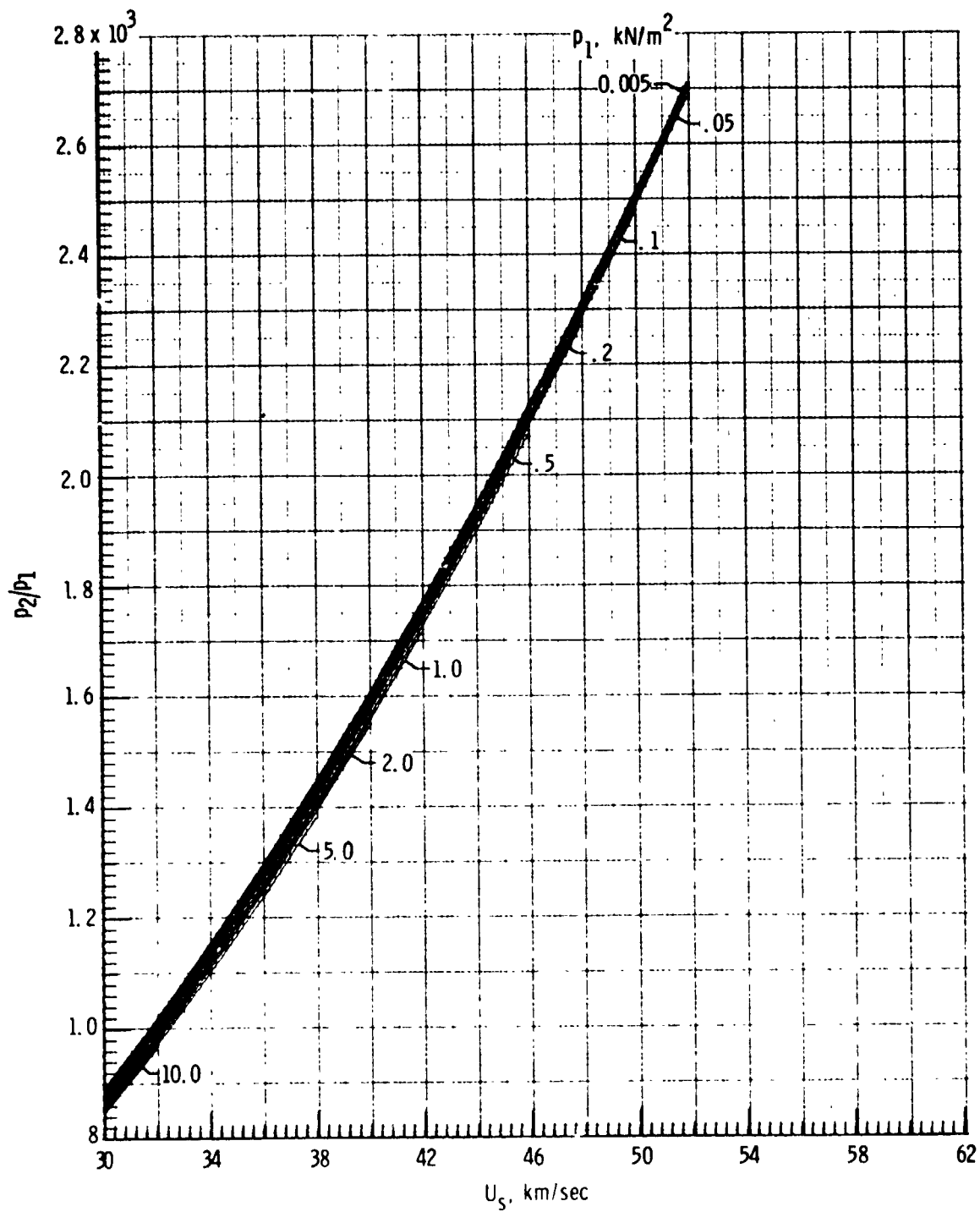
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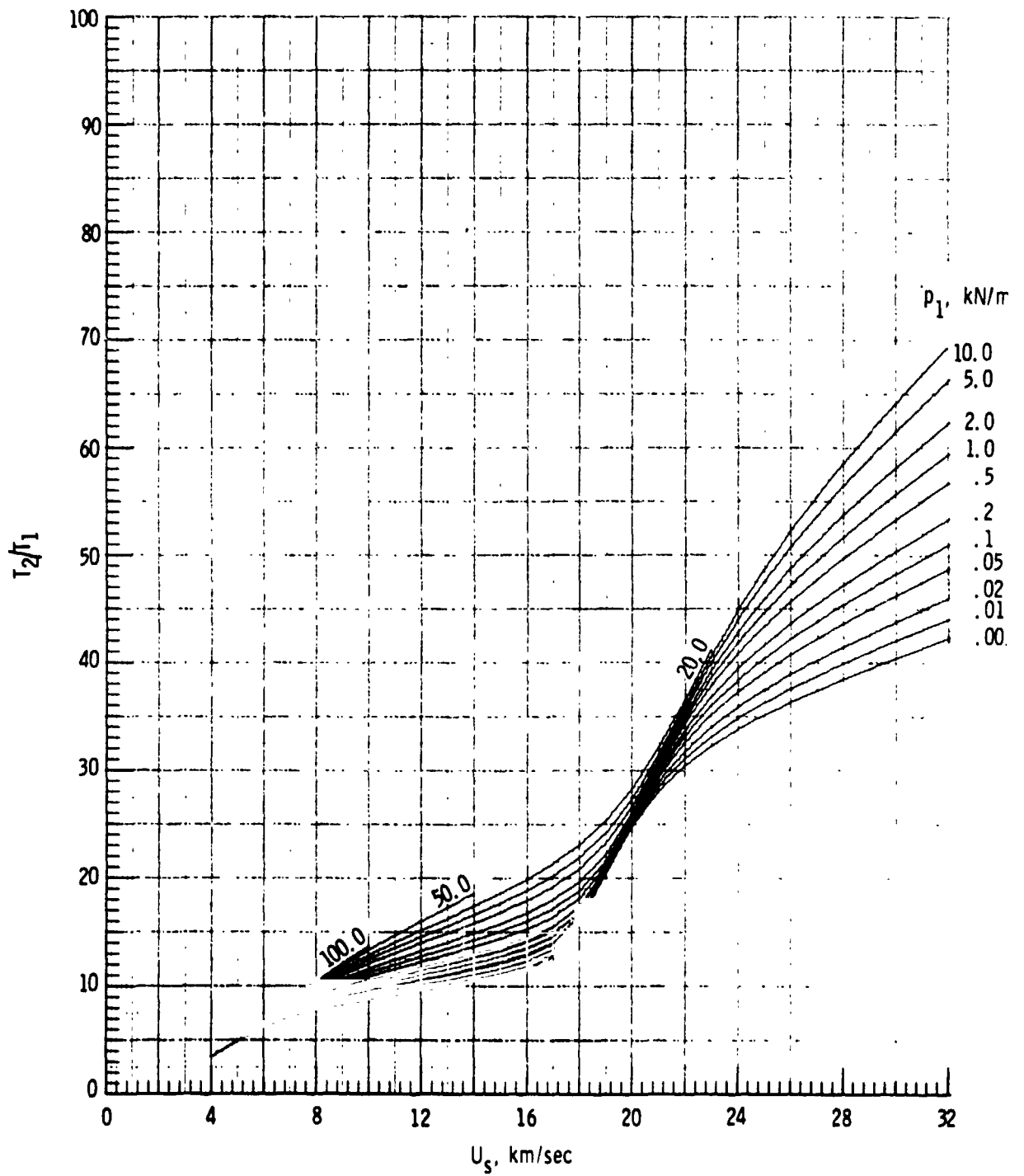
(a) Pressure p_2/p_1 .

Figure 2.- Thermodynamic properties and flow velocity behind an incident normal shock into a 0.35He-0.65H₂ mixture.



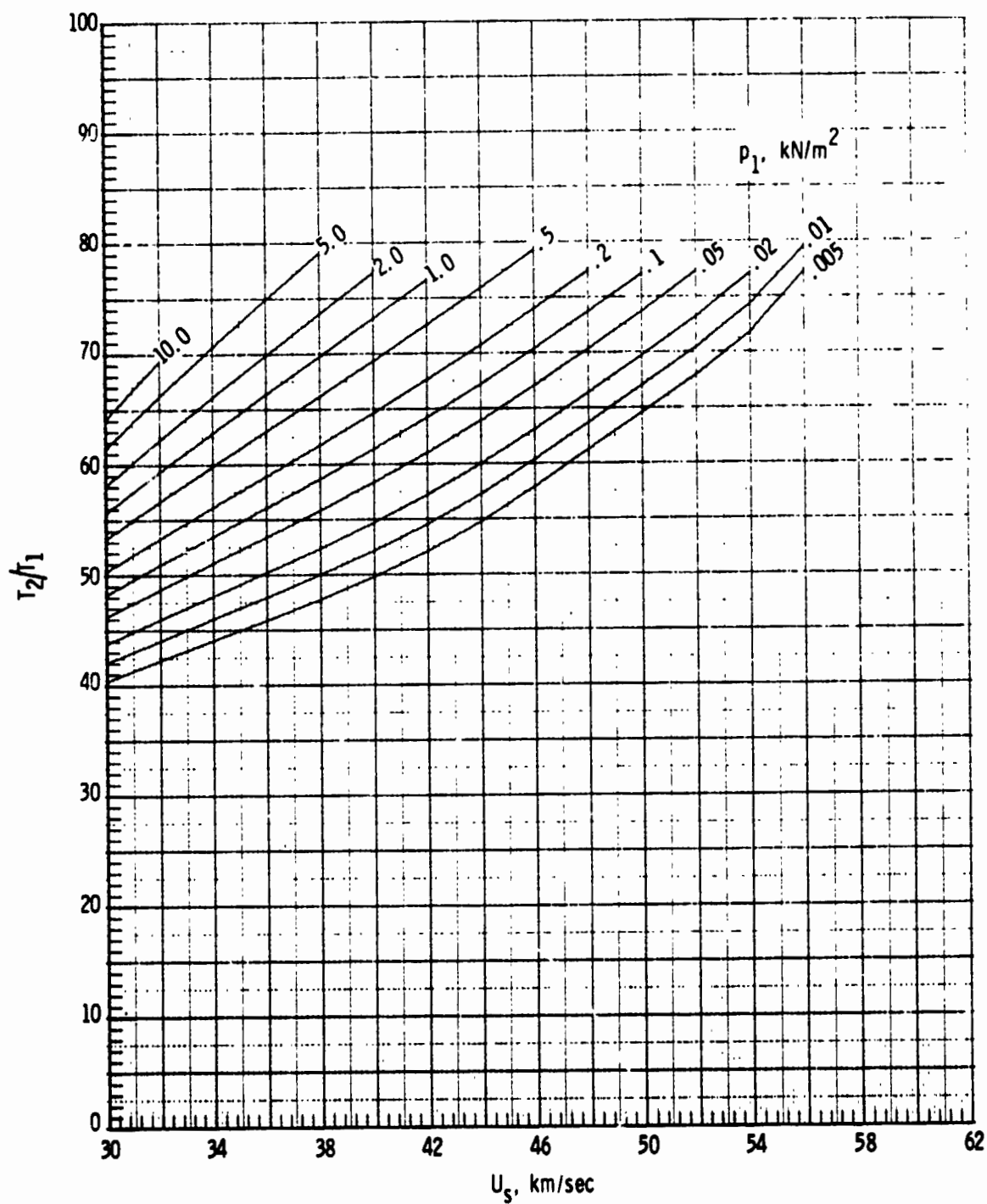
(a) Pressure p_2/p_1 . Concluded.

Figure 2.- Continued.



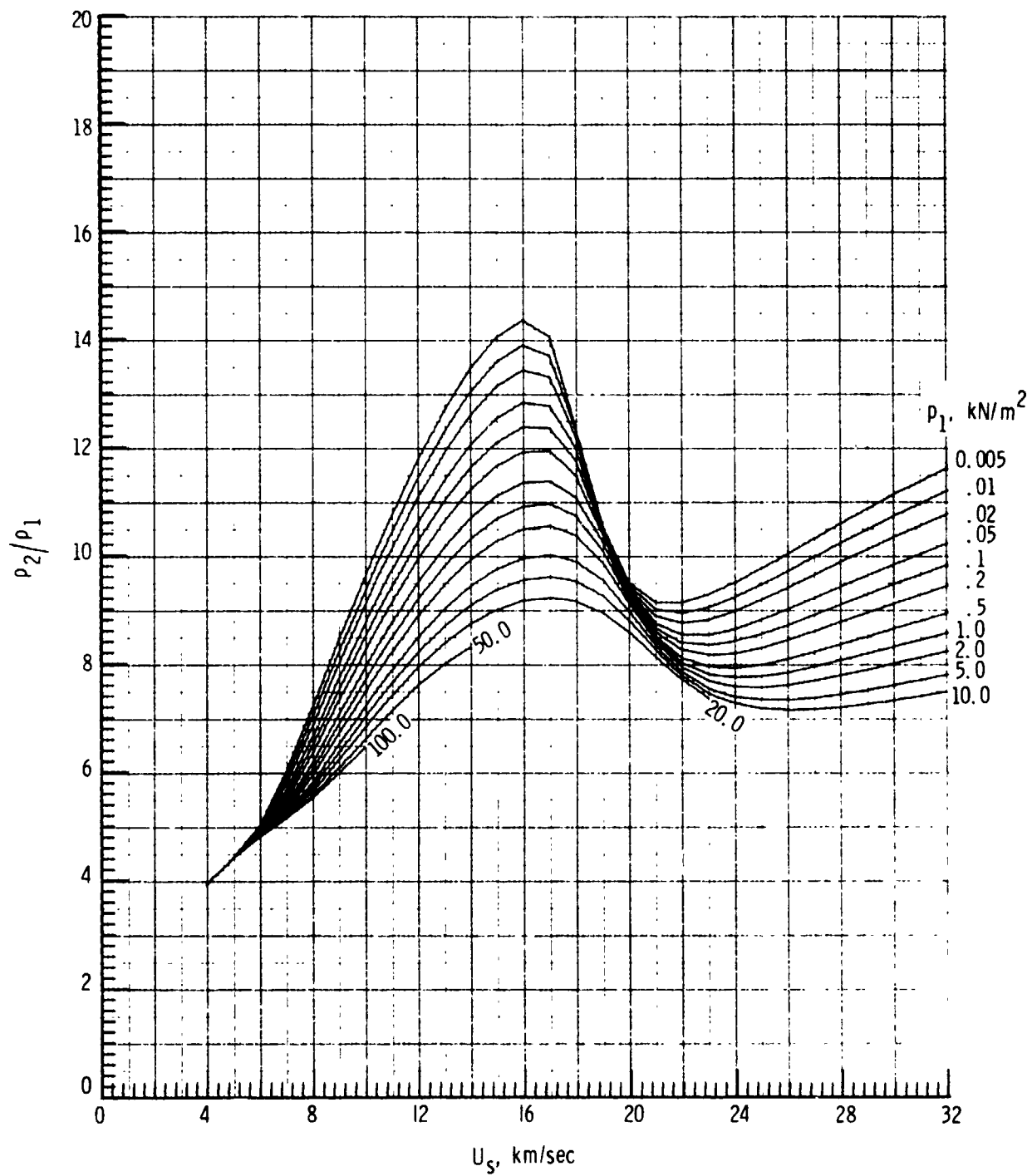
(b) Temperature T_2/T_1 .

Figure 2.- Continued.

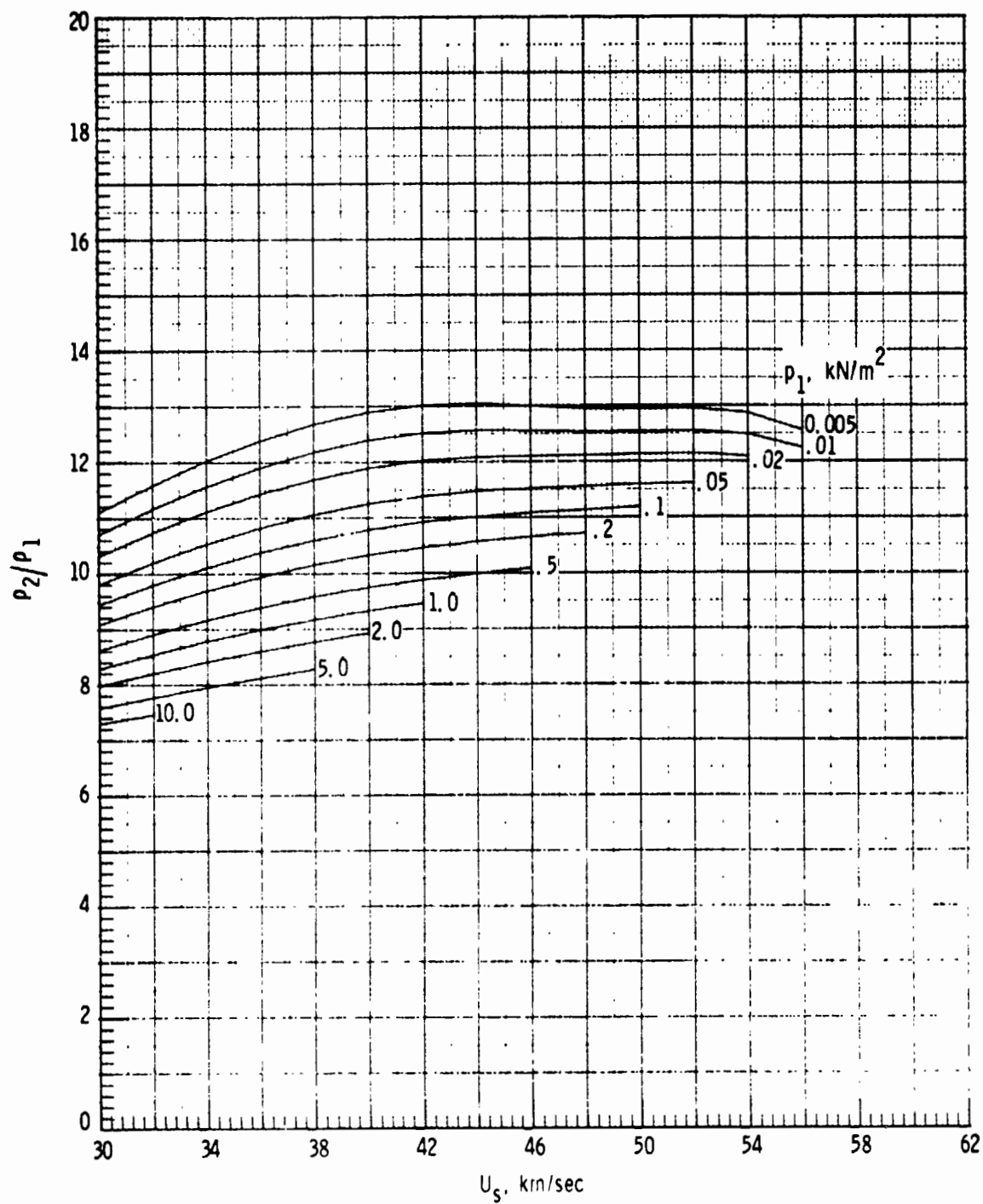


(b) Temperature T_2/T_1 . Concluded.

Figure 2.- Continued.

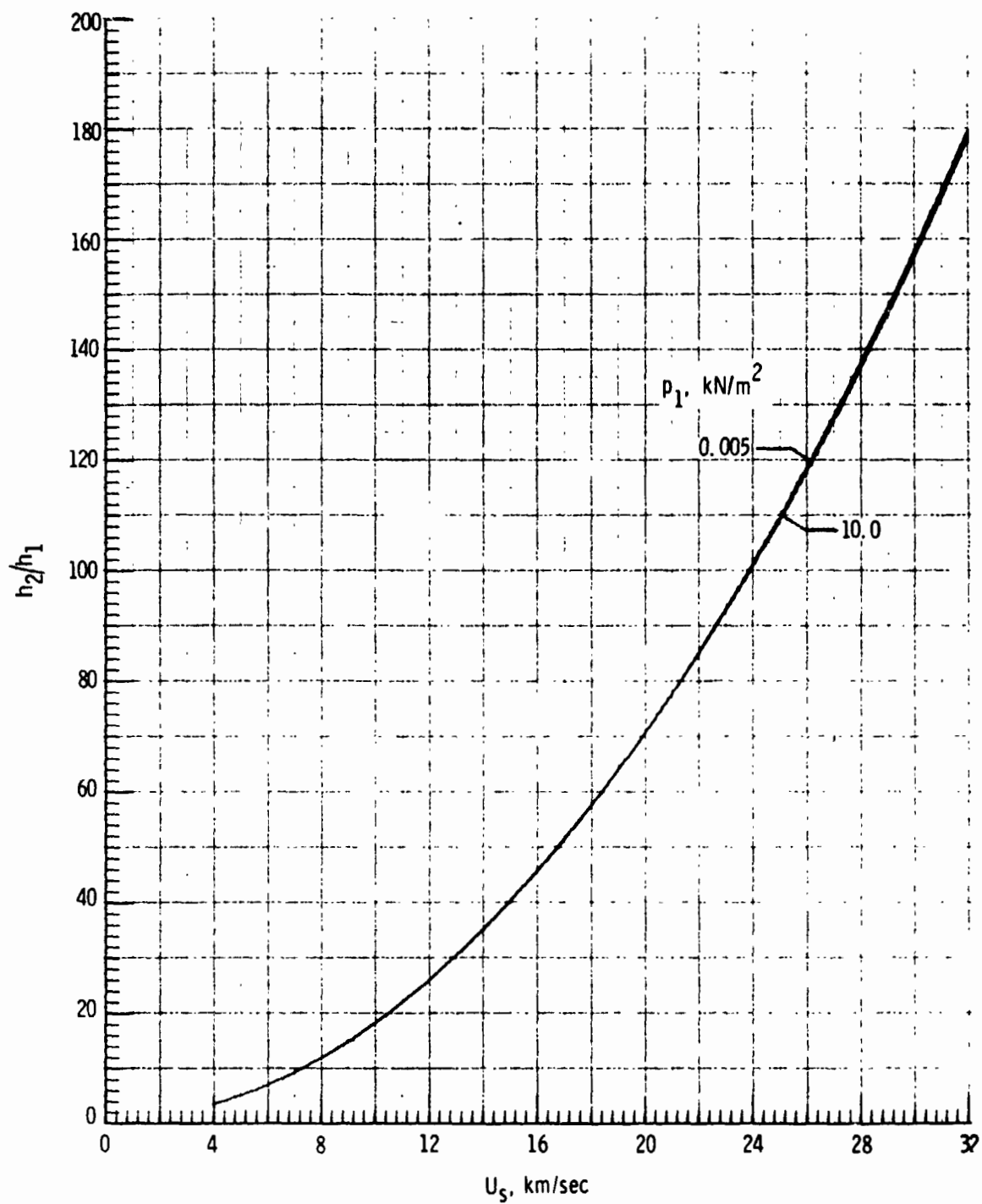


(c) Density ρ_2/ρ_1 .
Figure 2. - Continued.



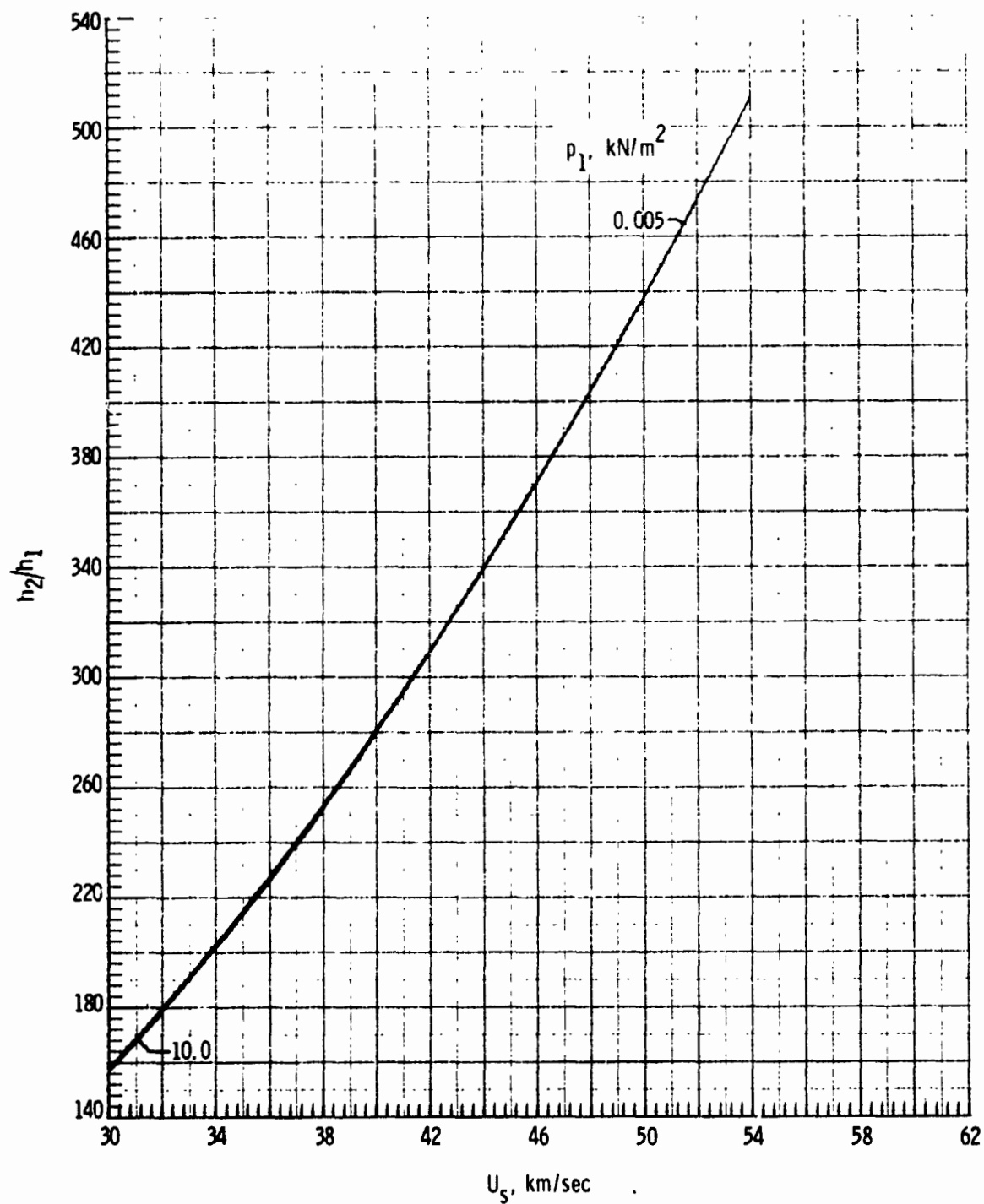
(c) Density ρ_2/ρ_1 . Concluded.

Figure 2.- Continued.



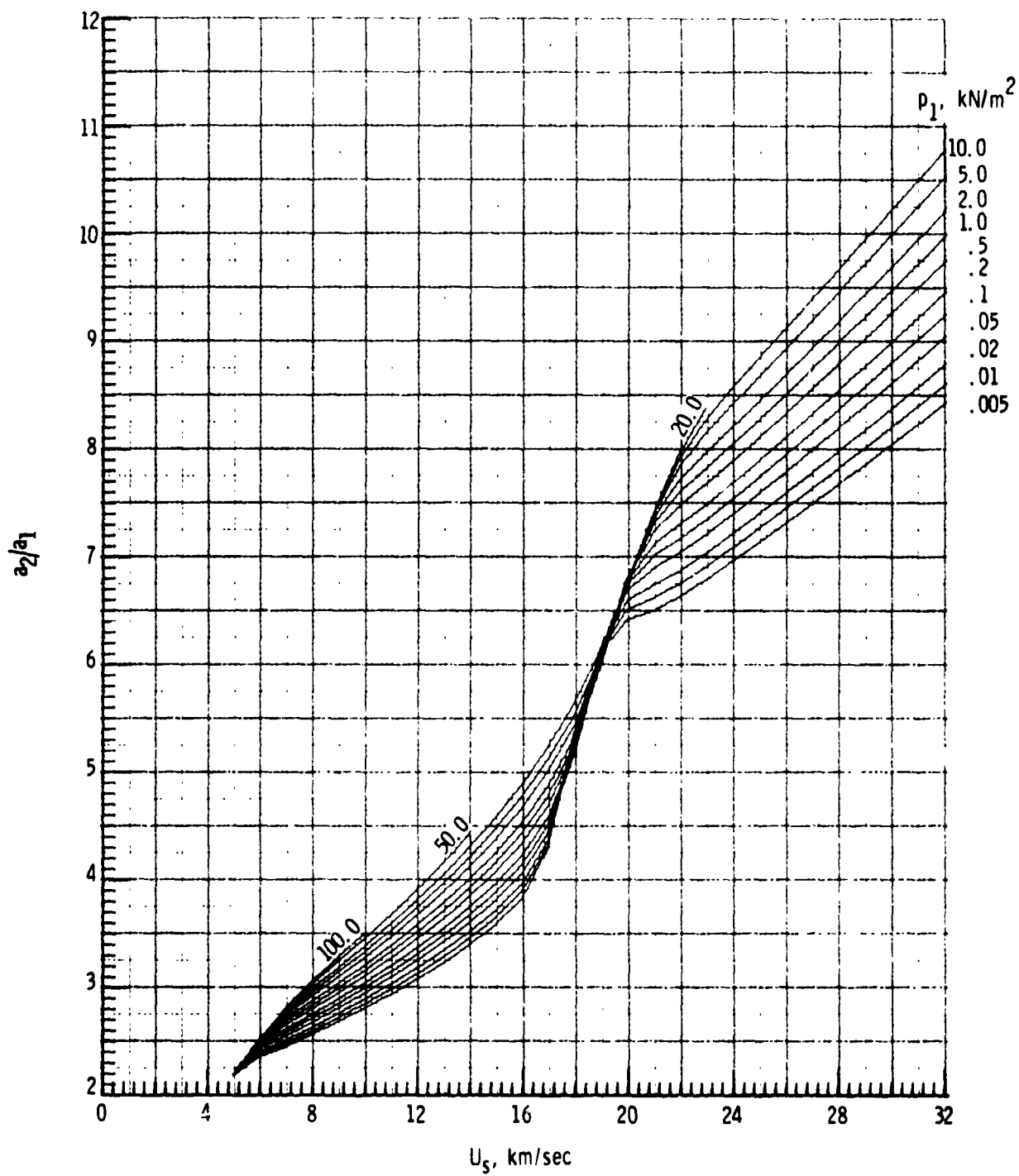
(d) Enthalpy h_2/h_1 .

Figure 2. - Continued.



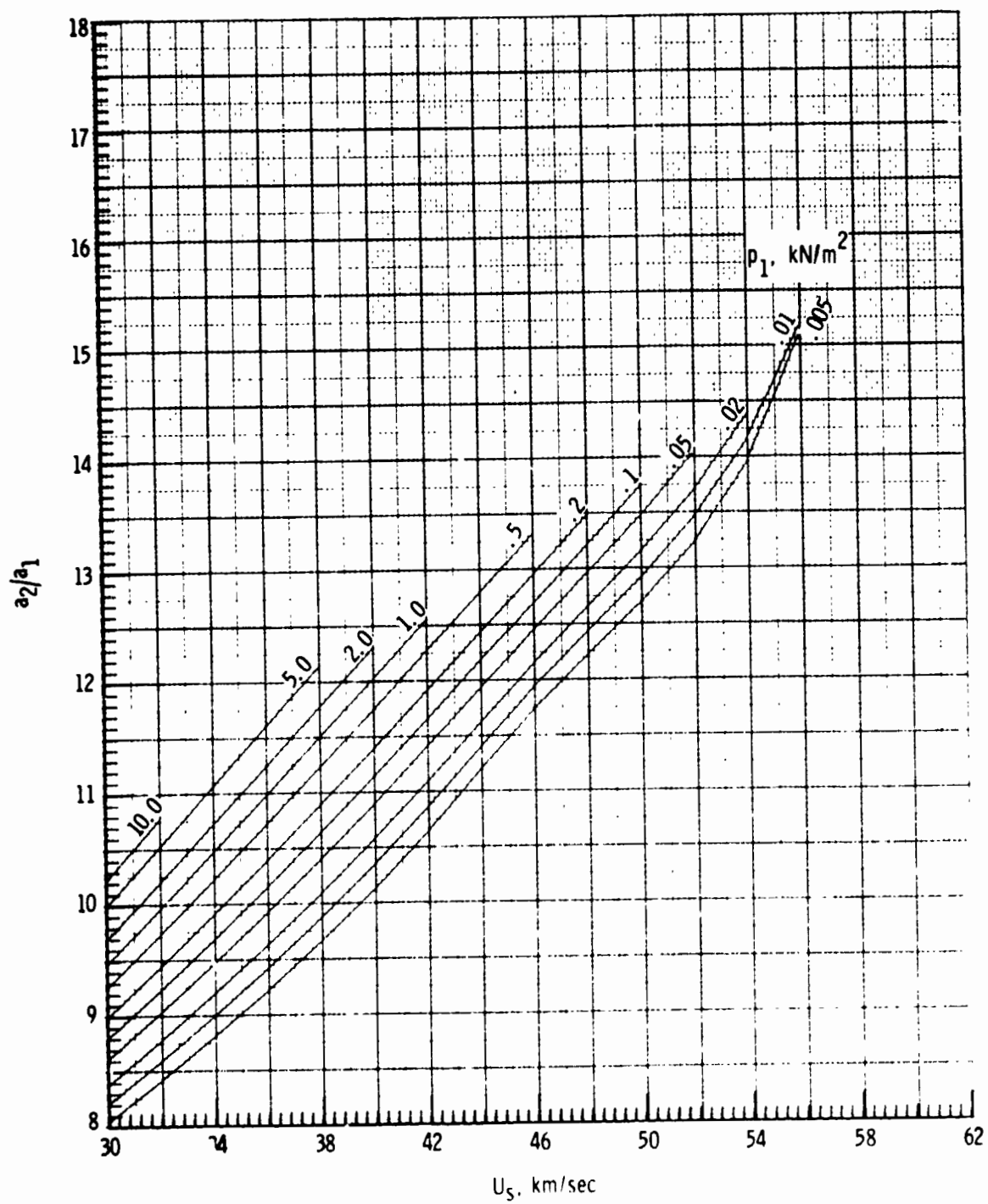
(d) Enthalpy h_2/h_1 . Concluded.

Figure 2. - Continued.



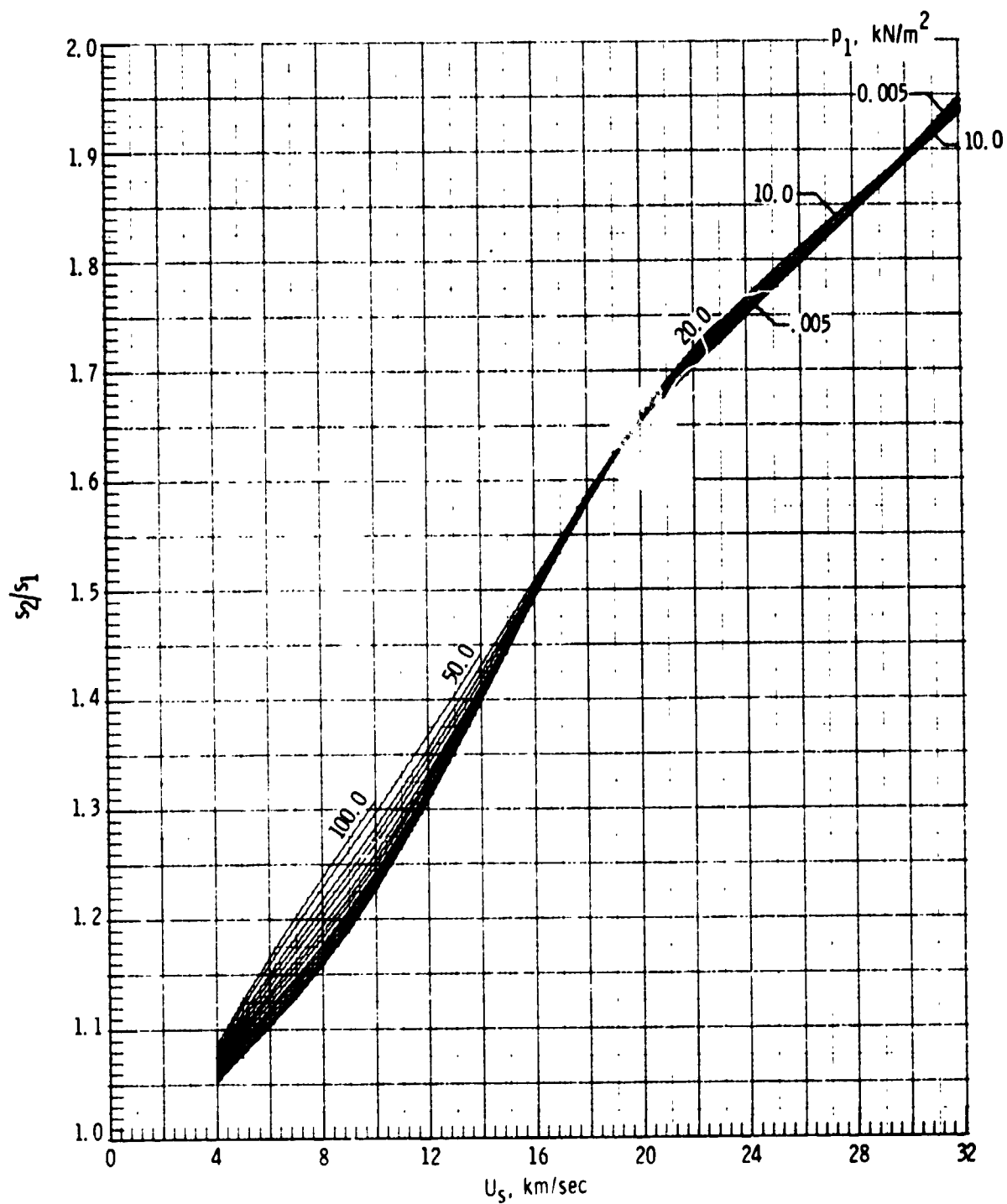
(e) Speed of sound a_2/a_1 .

Figure 2.- Continued.



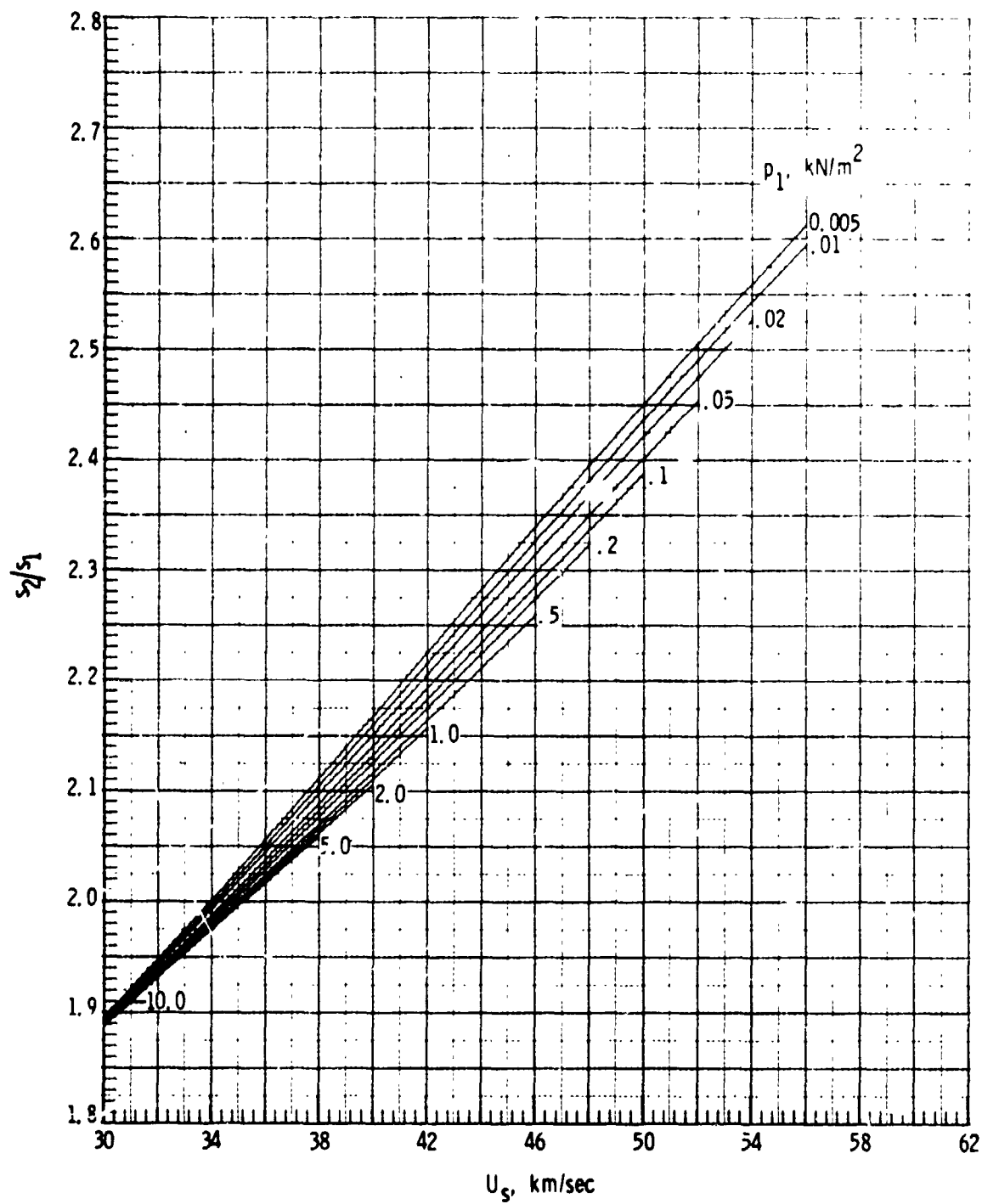
(e) Speed of sound a_2/a_1 . Concluded.

Figure 2.- Continued.



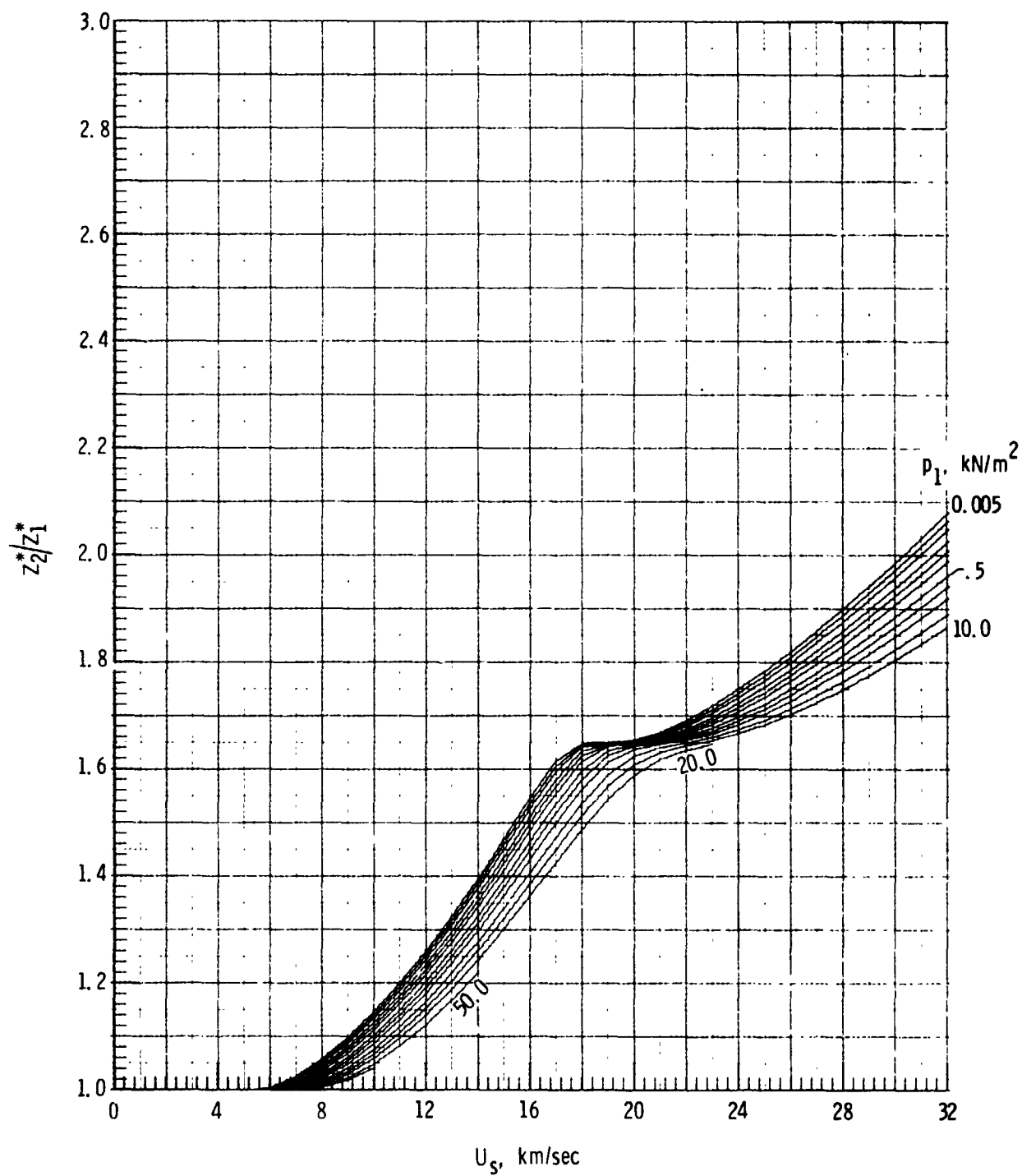
(f) Entropy s_2/s_1 .

Figure 2.- Continued.



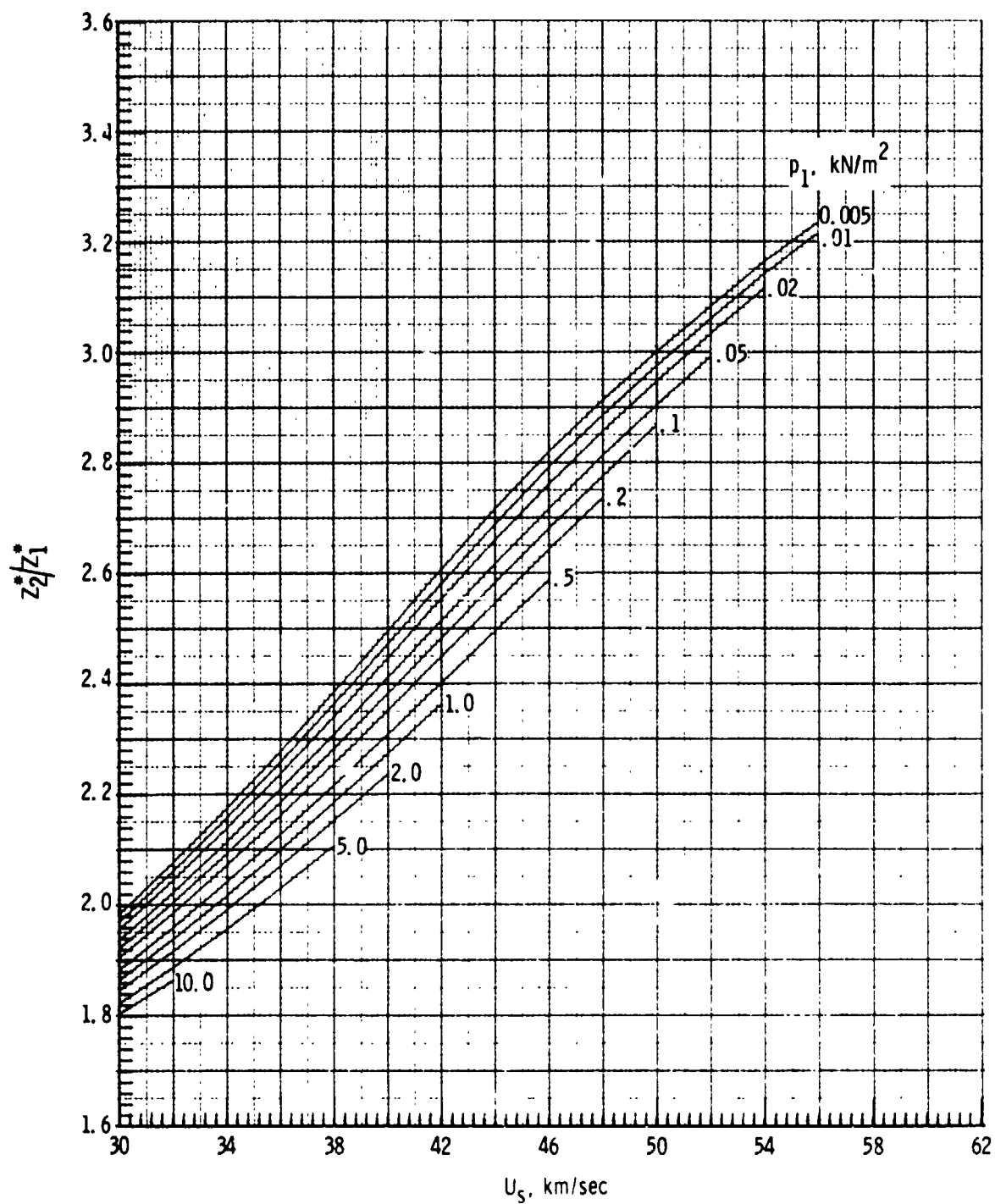
(f) Entropy s_2/s_1 . Concluded.

Figure 2.- Continued.



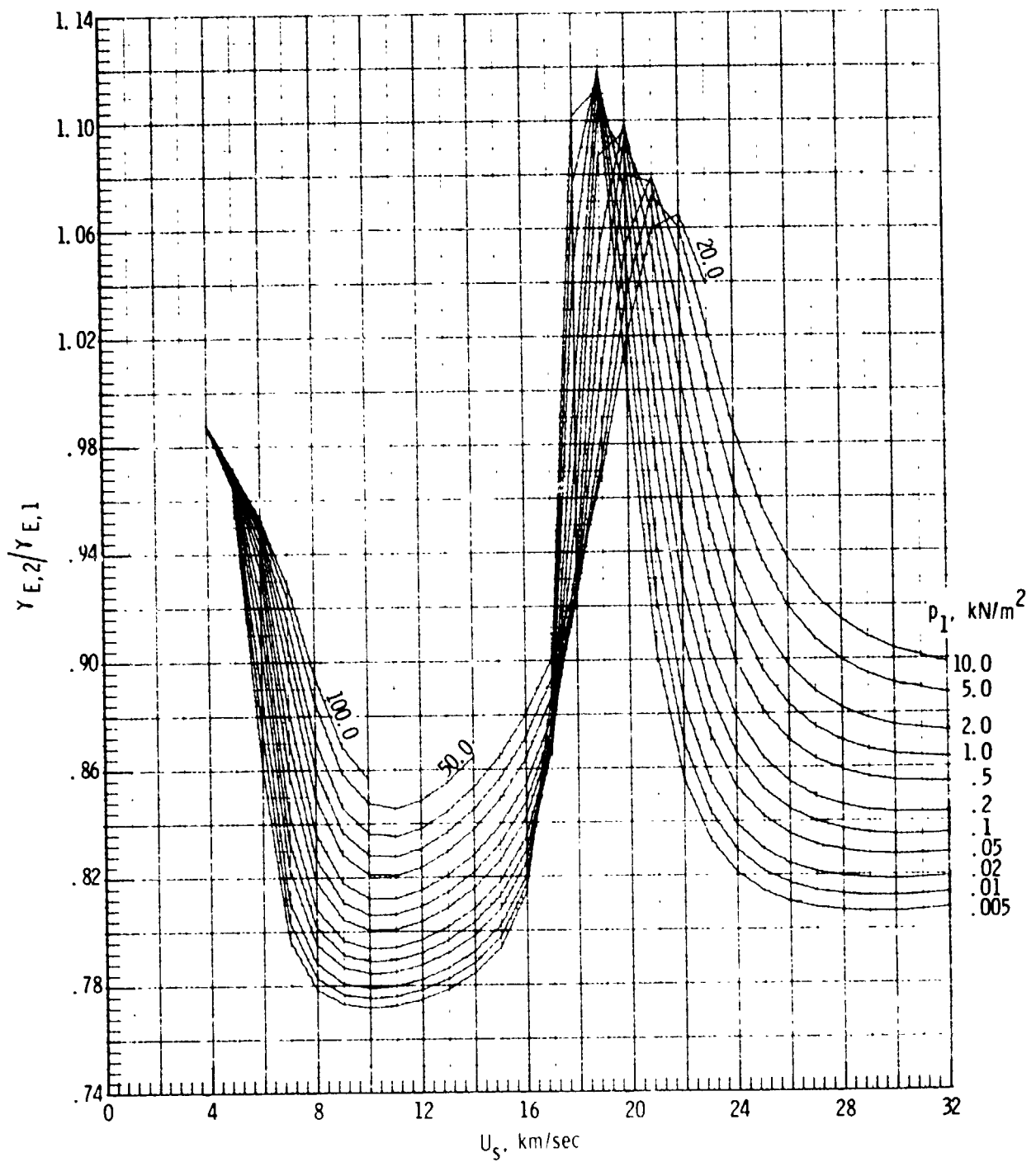
(g) Molecular-weight ratio Z_2^*/Z_1^* .

Figure 2.- Continued.



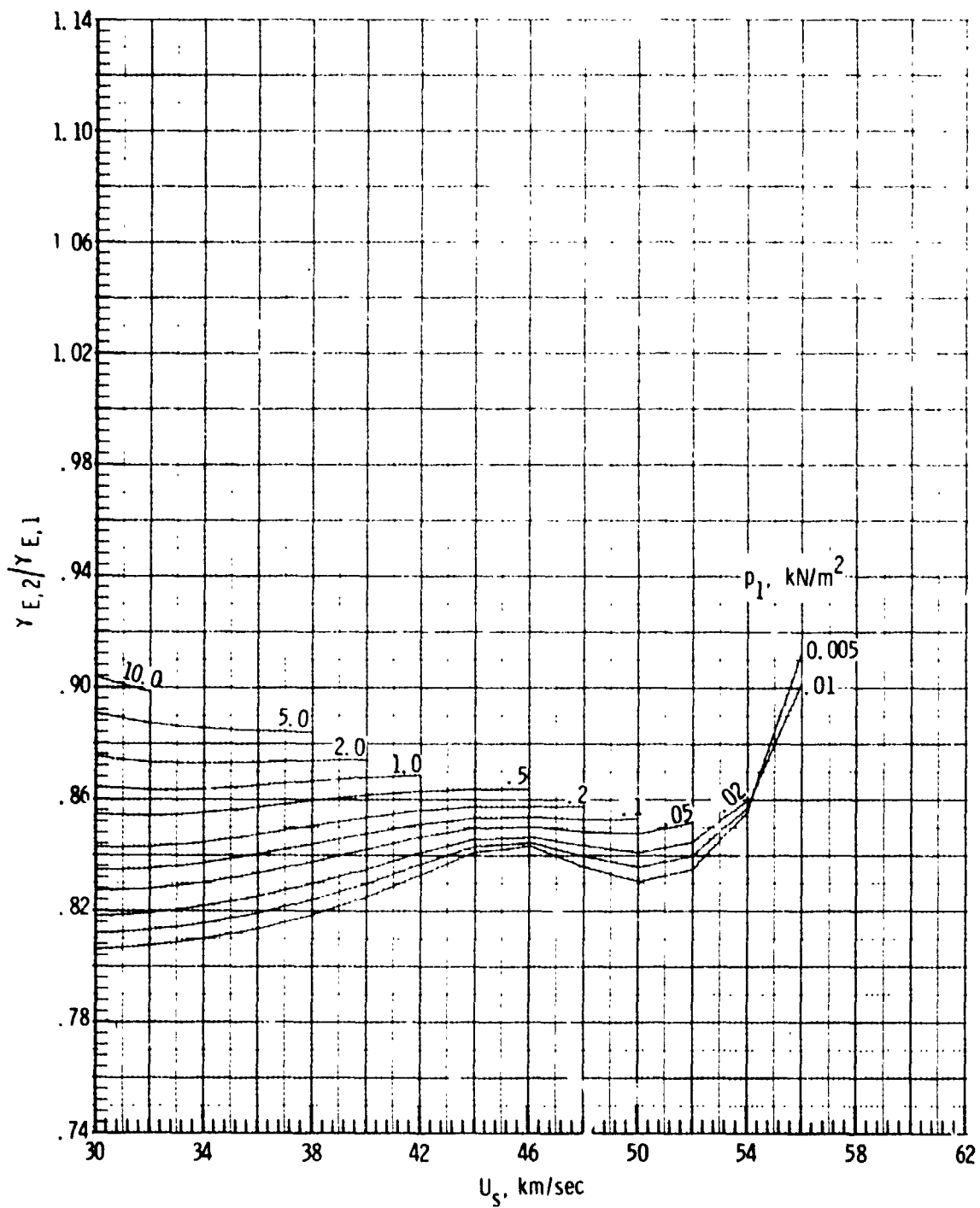
(g) Molecular-weight ratio Z_2^*/Z_1^* . Concluded.

Figure 2. - Continued.



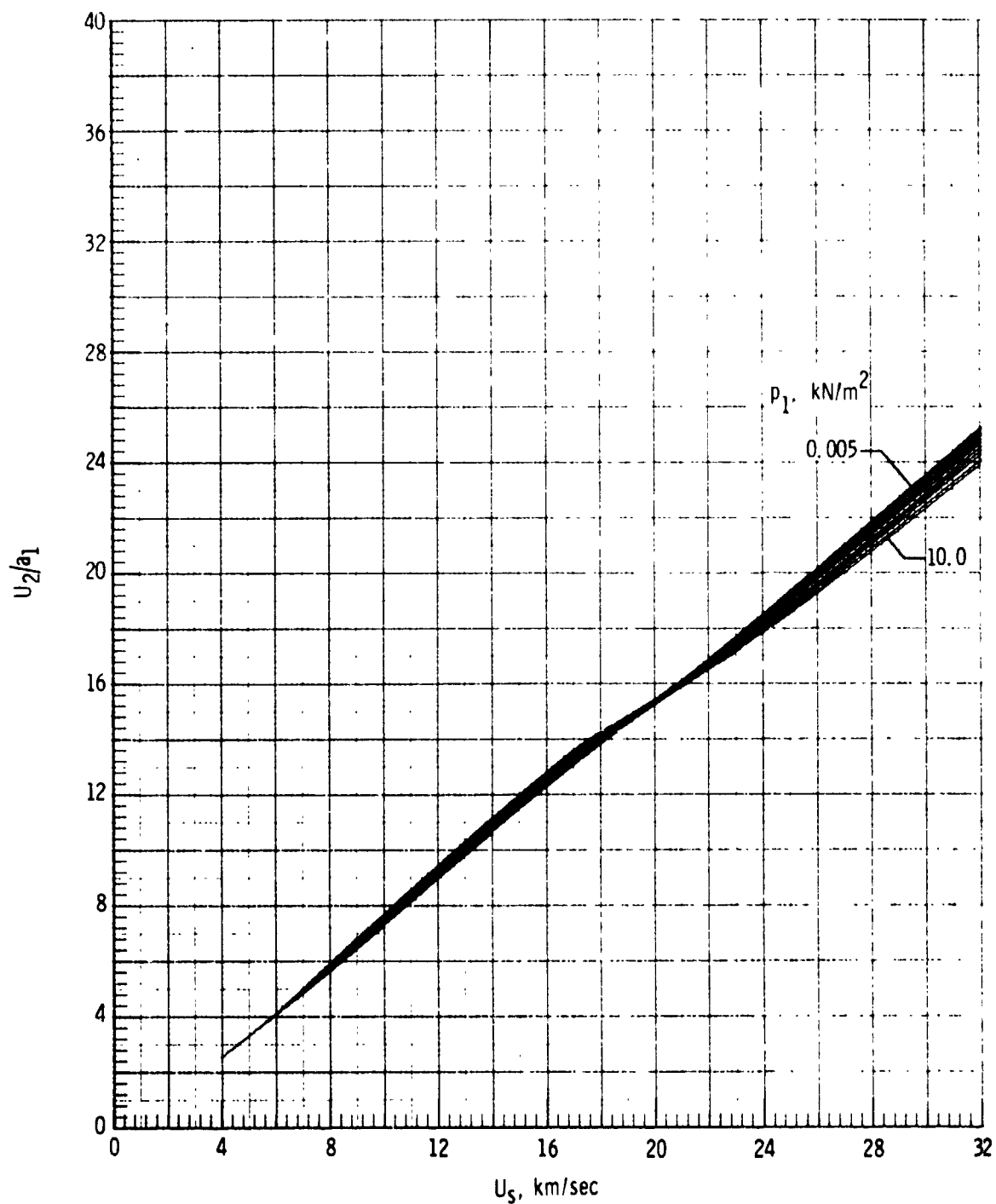
(h) Isentropic exponent $\gamma_{E,2}/\gamma_{E,1}$

Figure 2. - Continued.



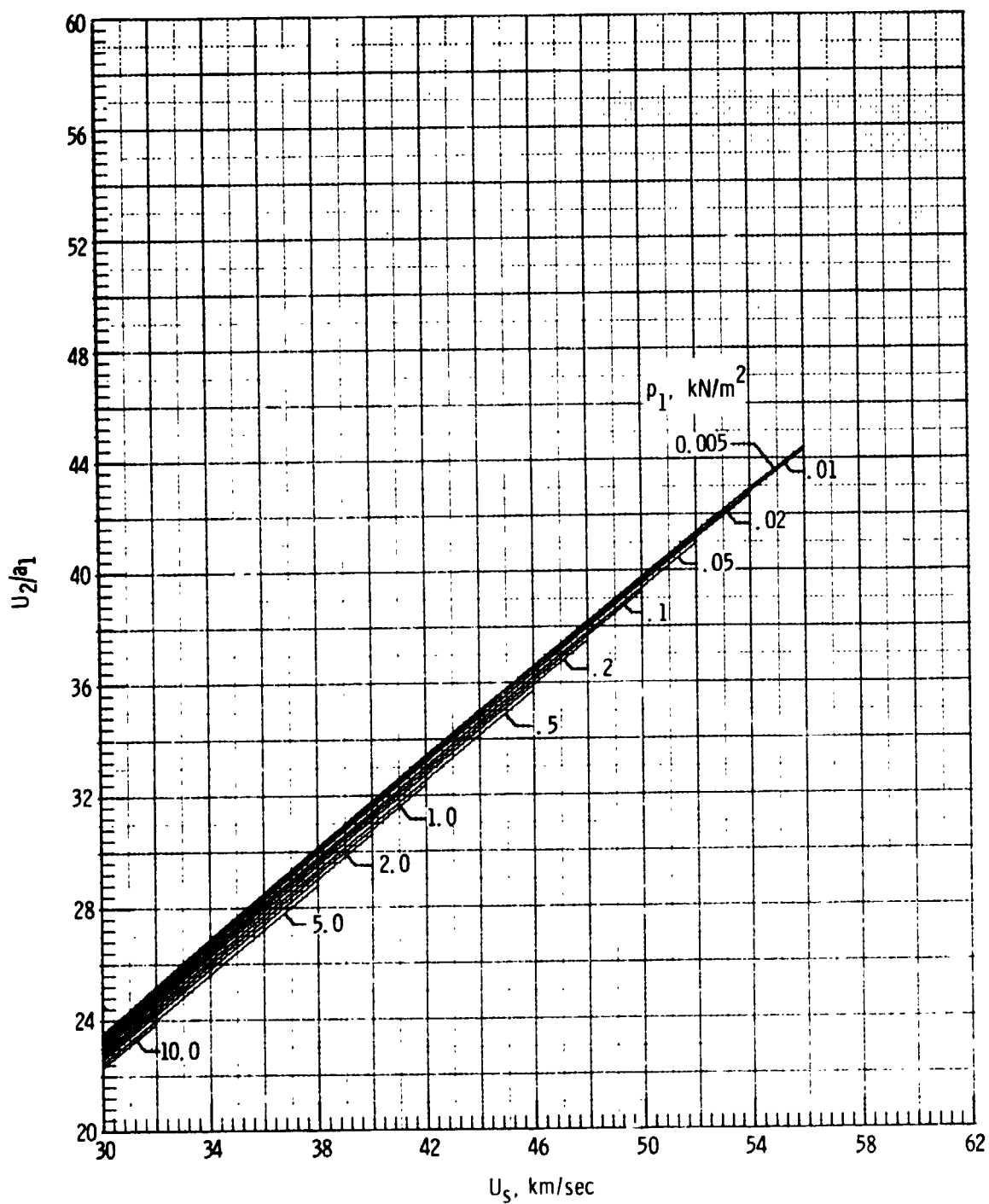
(h) Isentropic exponent $\gamma_{E,2}/\gamma_{E,1}$. Concluded.

Figure 2. - Continued.



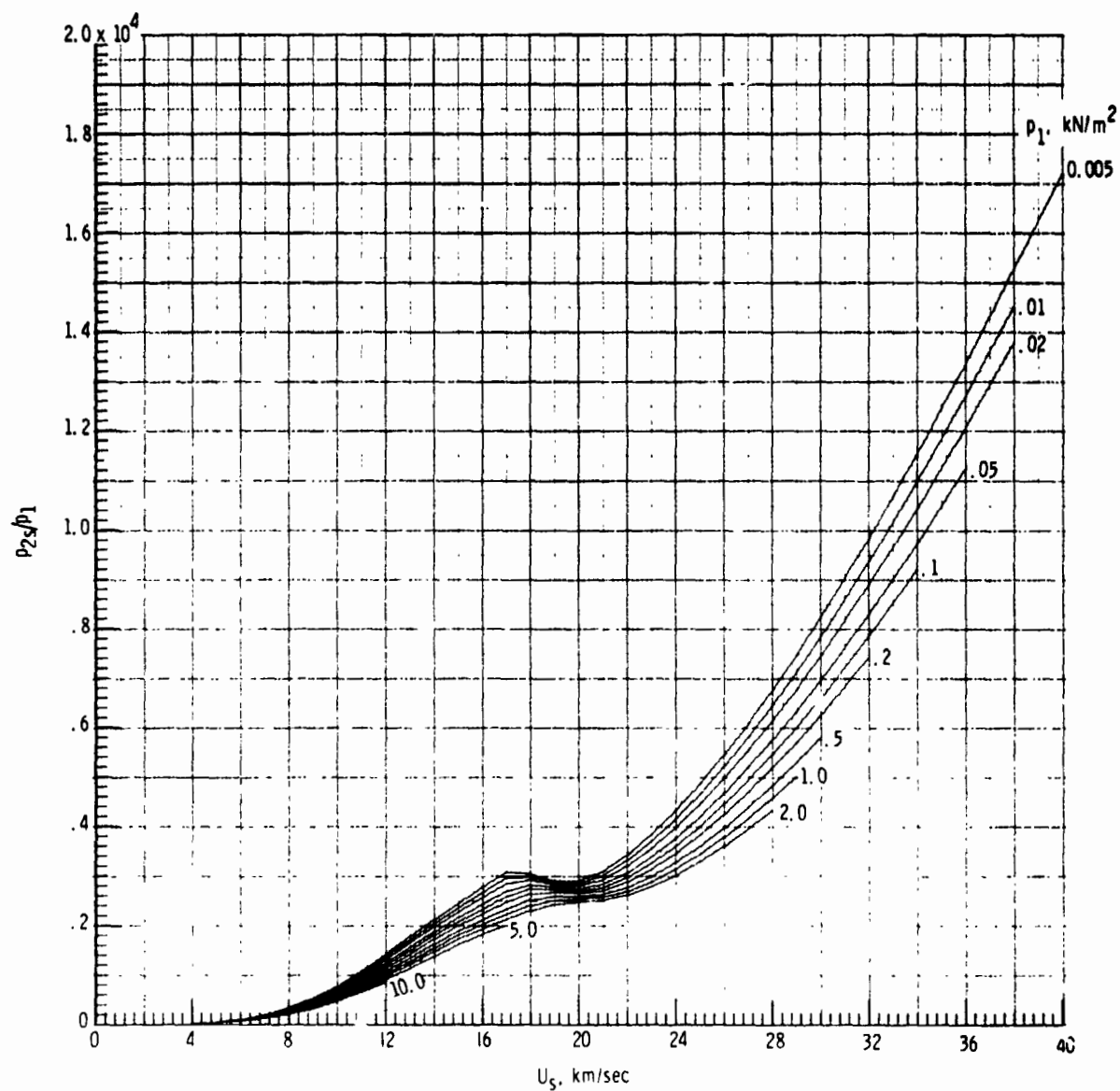
(i) Flow velocity U_2/a_1 .

Figure 2. - Continued.



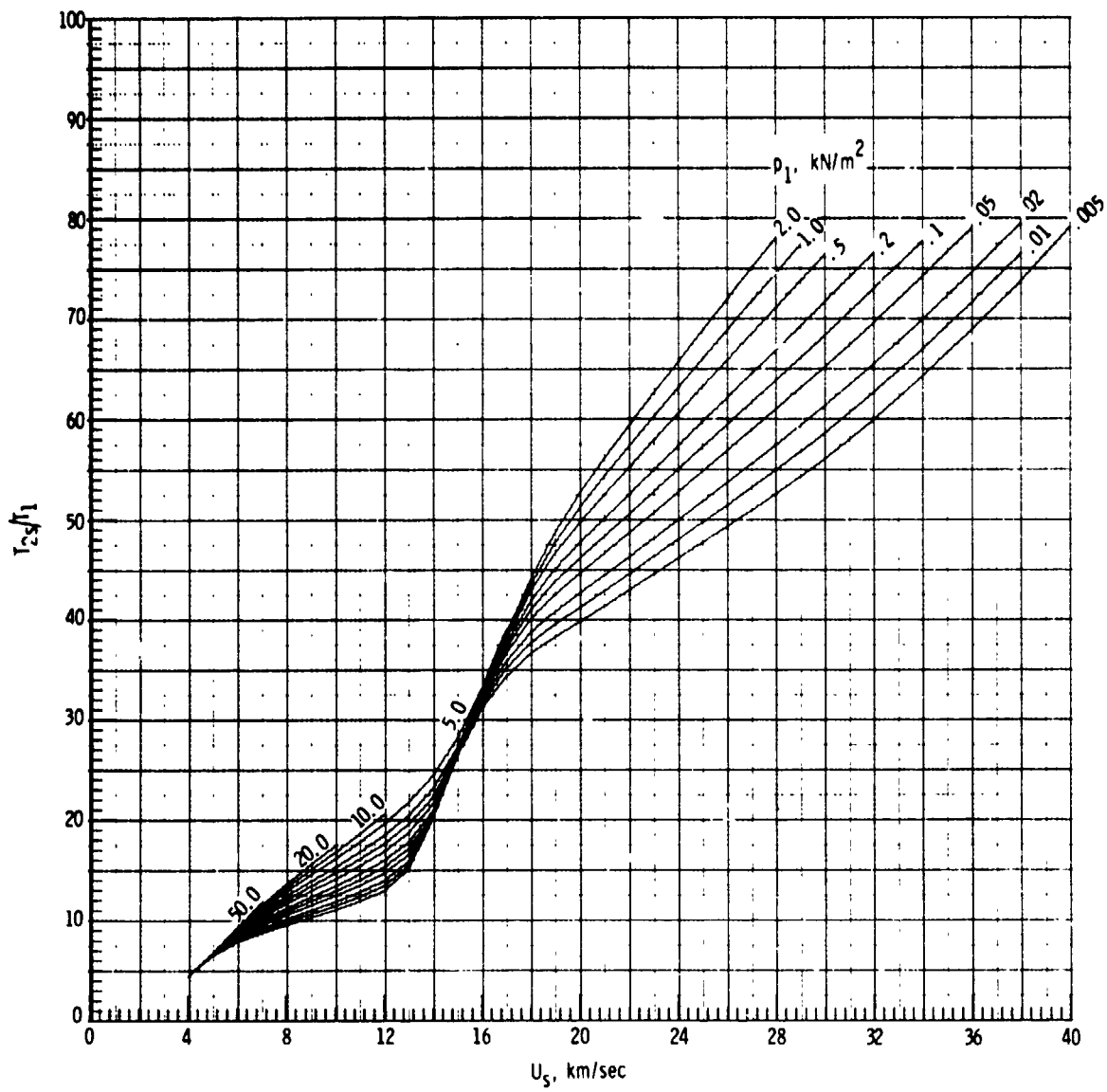
(i) Flow velocity U_2/a_1 . Concluded.

Figure 2.- Concluded.



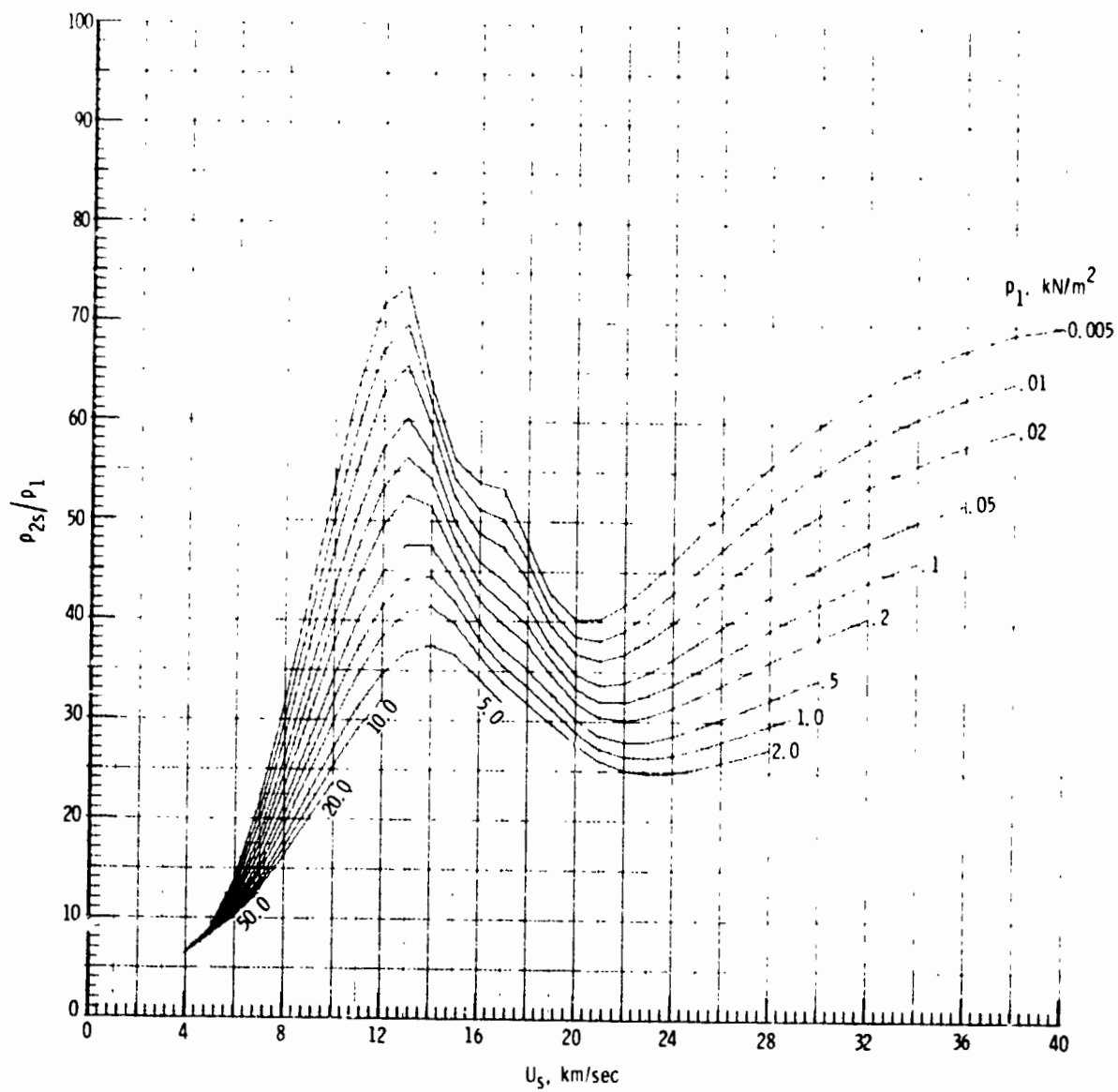
(a) Pressure p_{2s}/p_1 .

Figure 3.- Thermodynamic properties and flow velocity behind a standing normal shock for a 0.35He-0.65H₂ mixture.



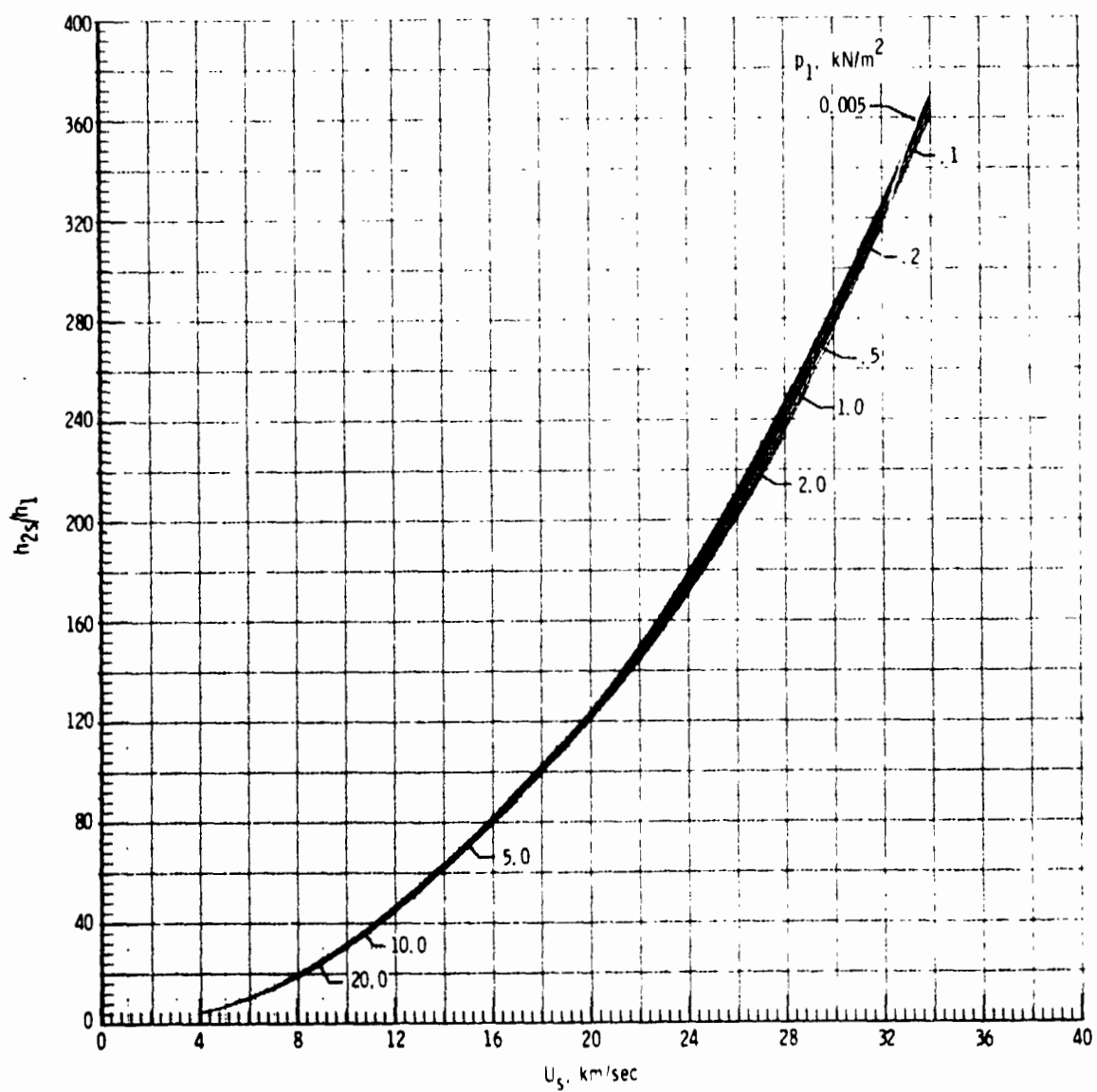
(b) Temperature T_{2s}/T_1 .

Figure 3.- Continued.



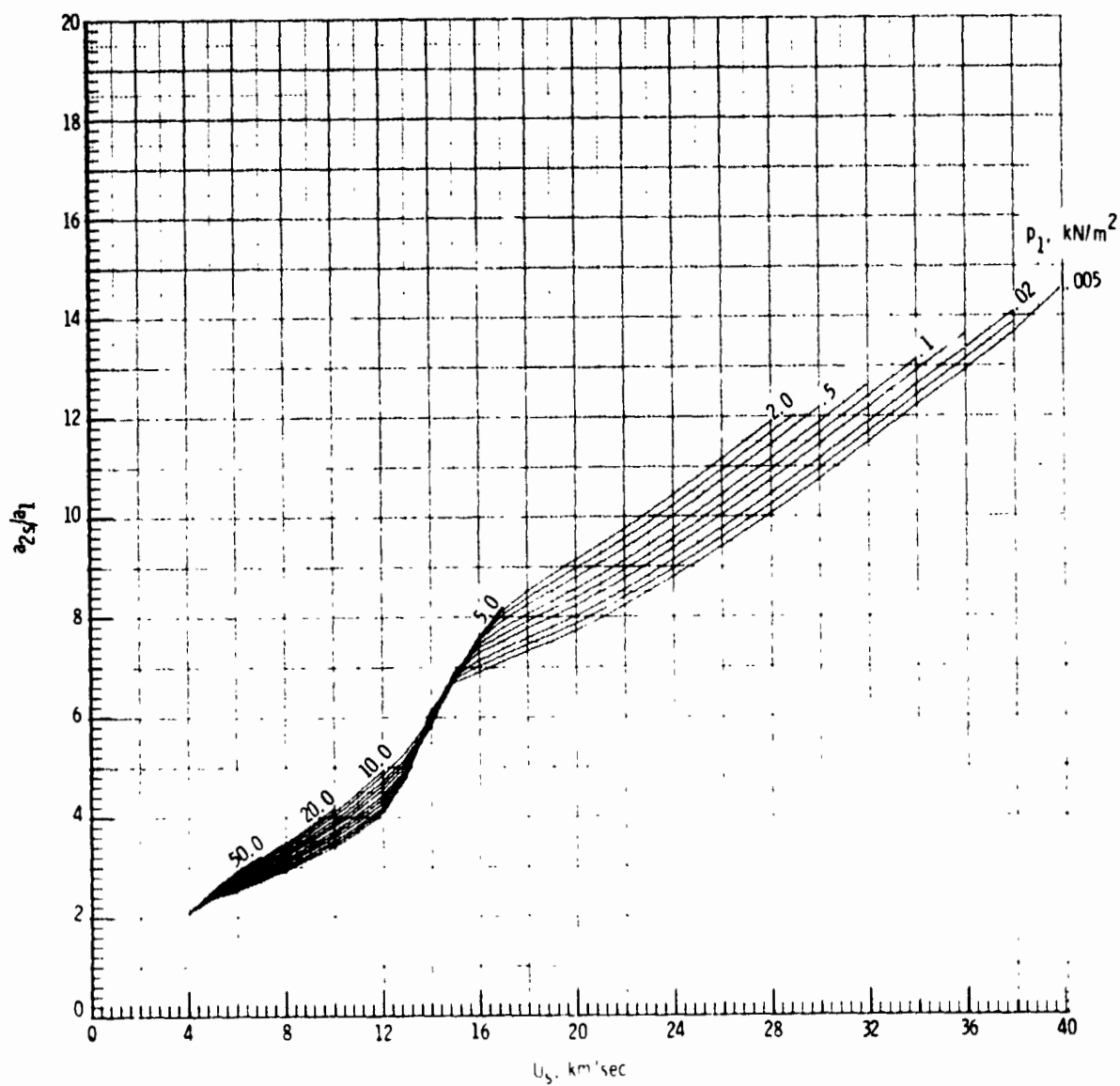
(c) Density ρ_{2s}/ρ_1 .

Figure 3.- Continued.



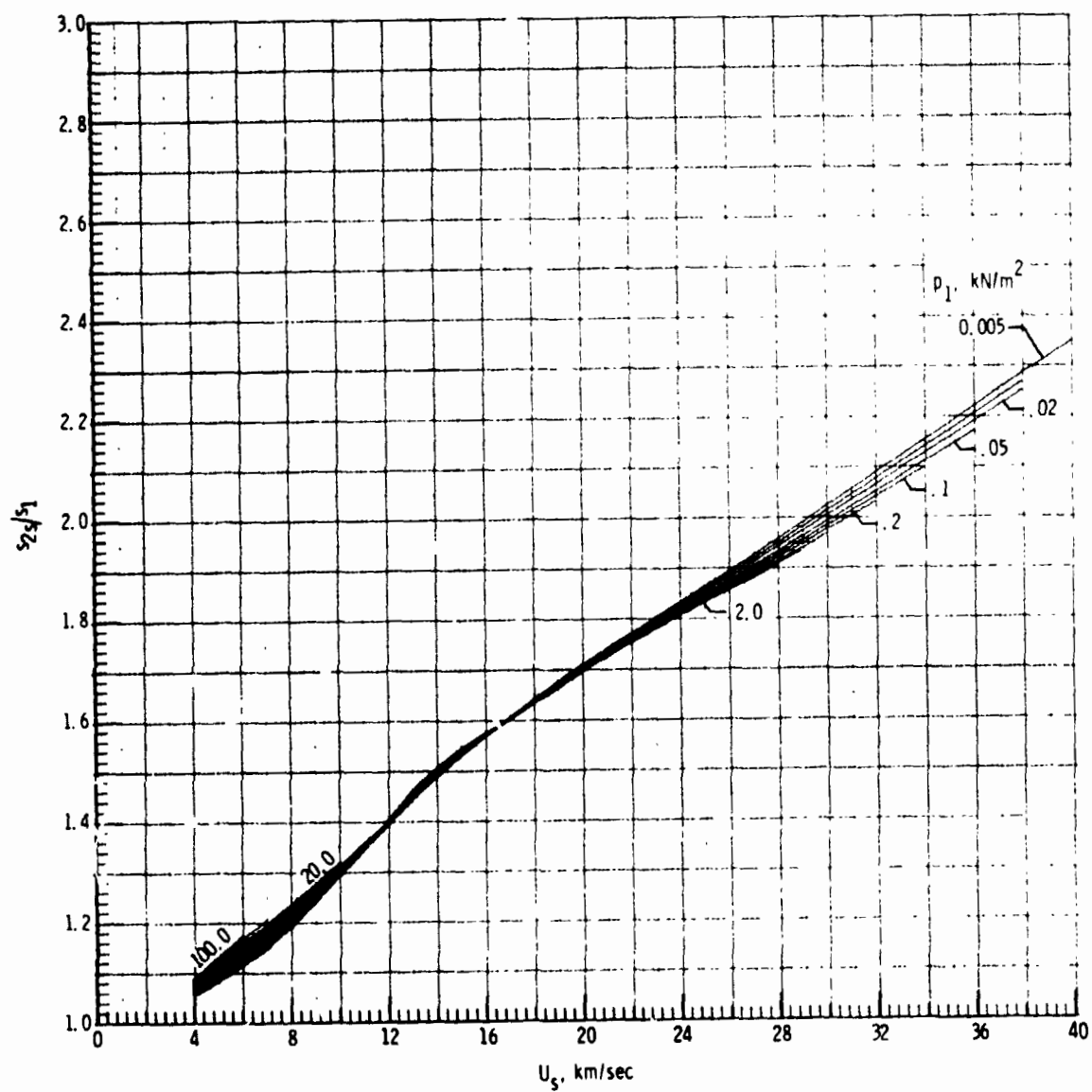
(d) Enthalpy h_{2s}/h_1 .

Figure 3.- Continued.



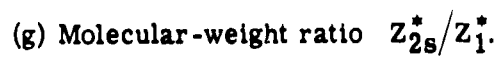
(e) Speed of sound a_{2s}/a_1 .

Figure 3.- Continued.

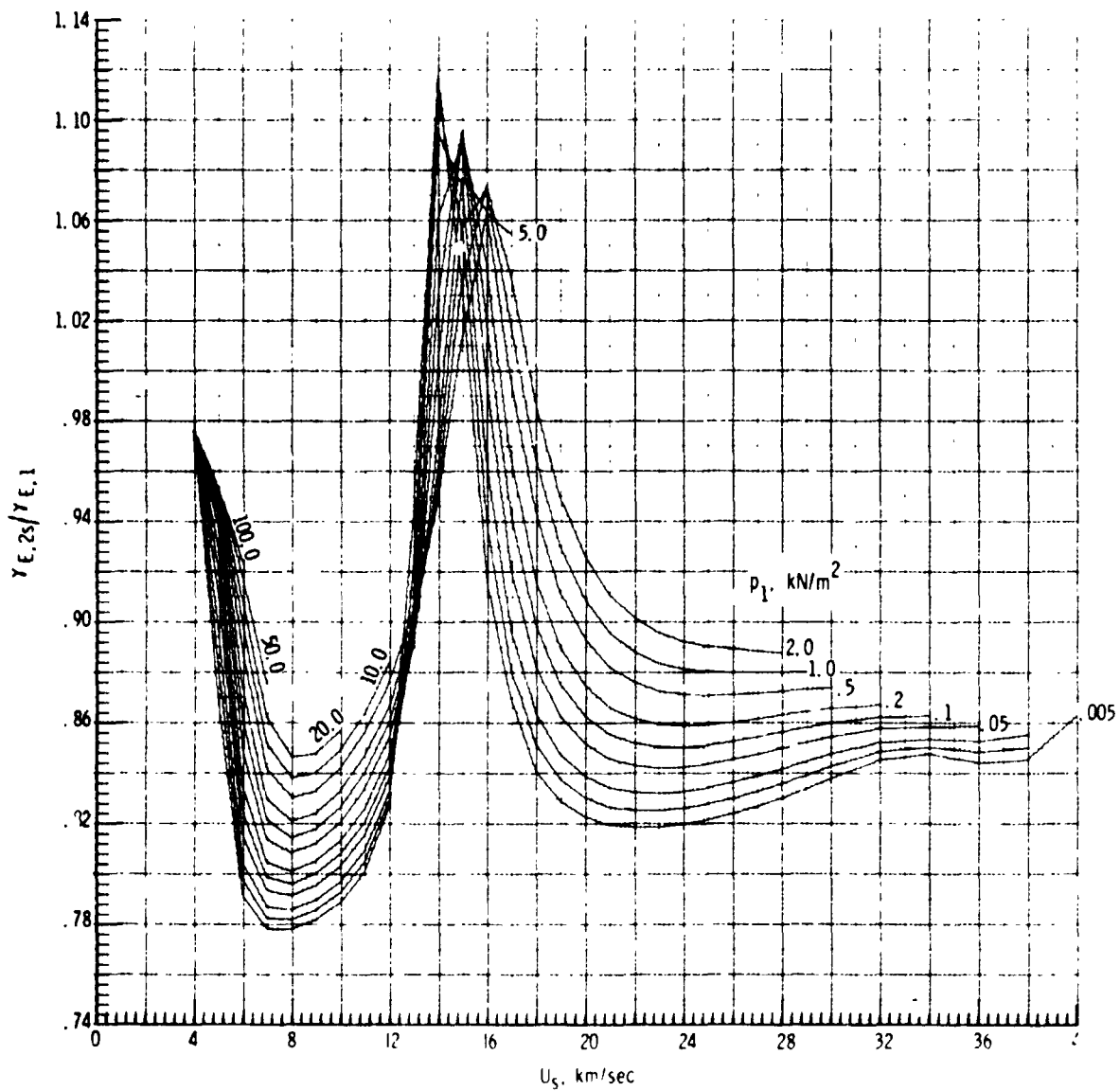


(f) Entropy s_{2s}/s_1 .

Figure 3.- Continued.

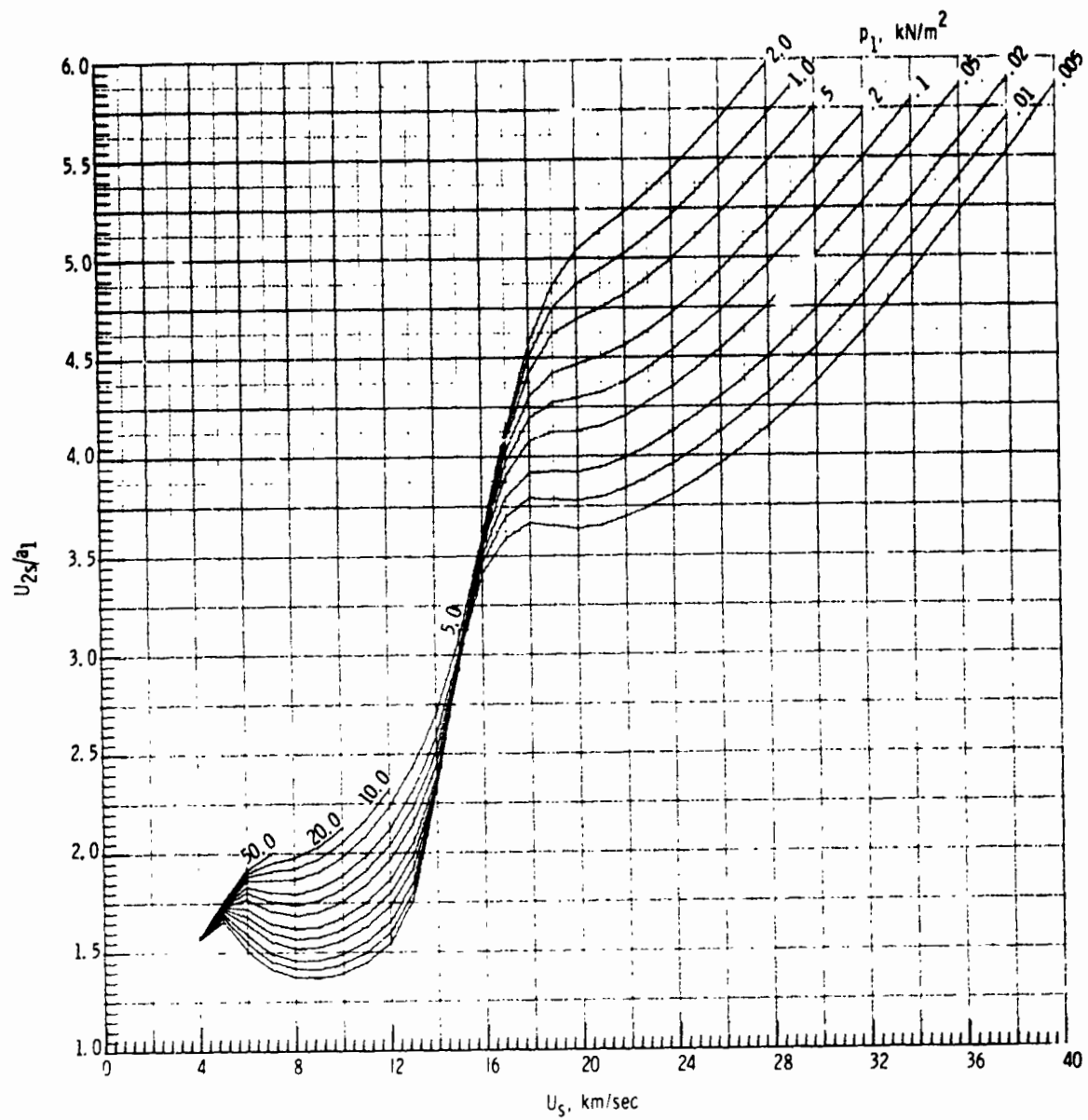


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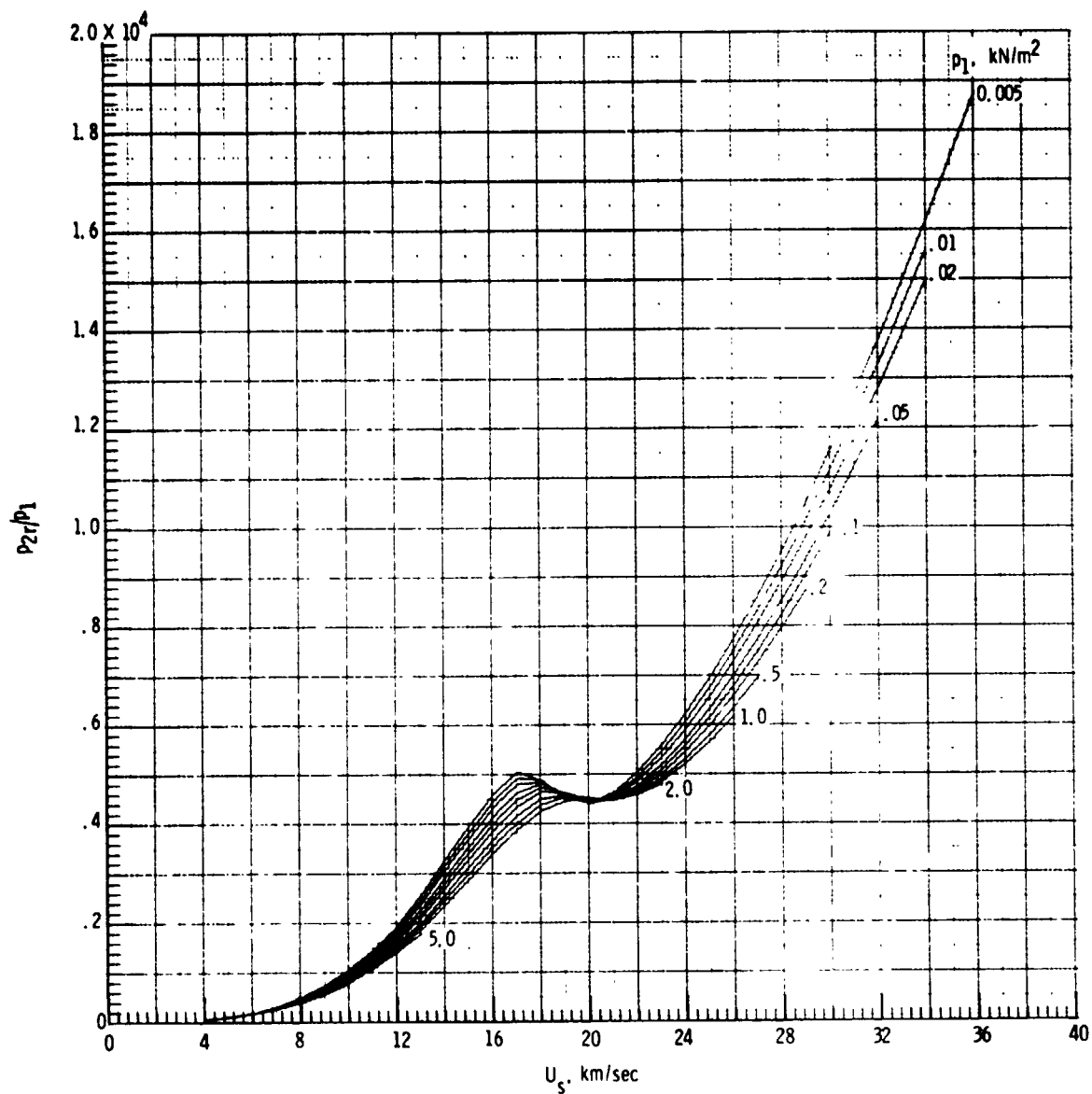
(h) Isentropic exponent $\gamma_{E,2s}/\gamma_{E,1}$

Figure 3.- Continued.



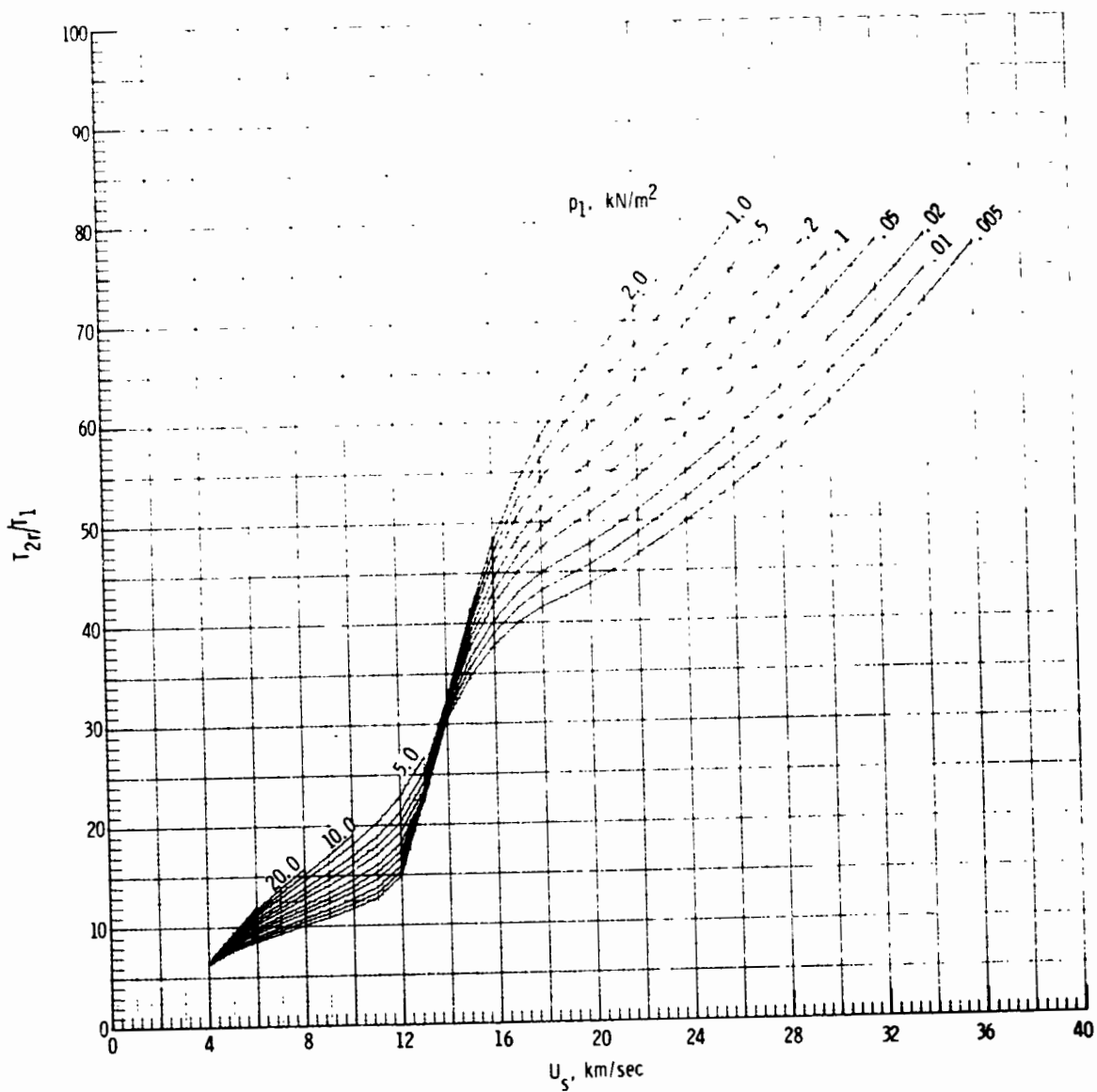
(i) Flow velocity U_{2s}/a_1 .

Figure 3. - Concluded.



(a) Pressure p_{2r}/p_1 .

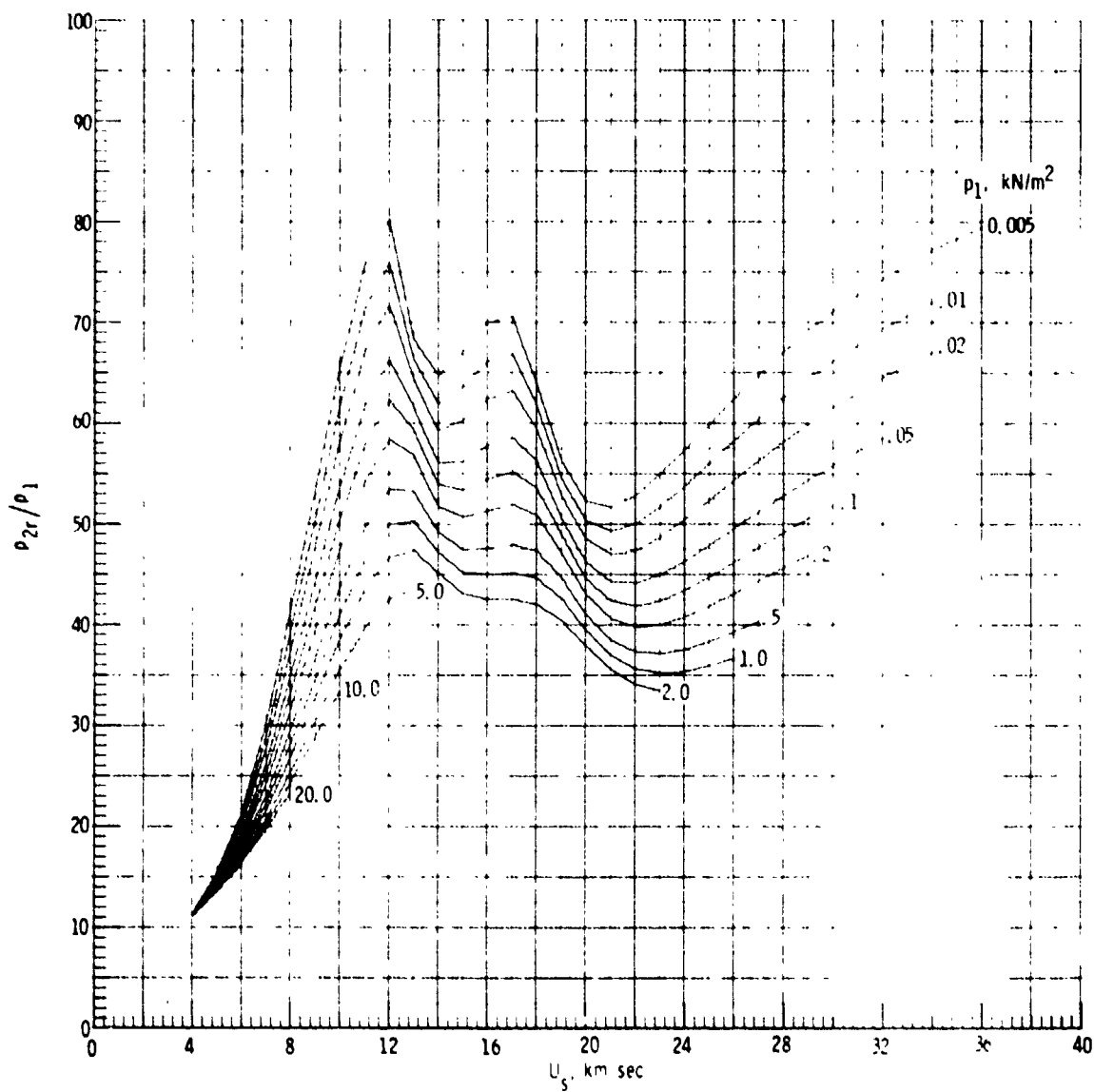
Figure 4.- Thermodynamic properties behind a reflected normal shock and reflected shock velocity for a 0.35He-0.65H₂ mixture.



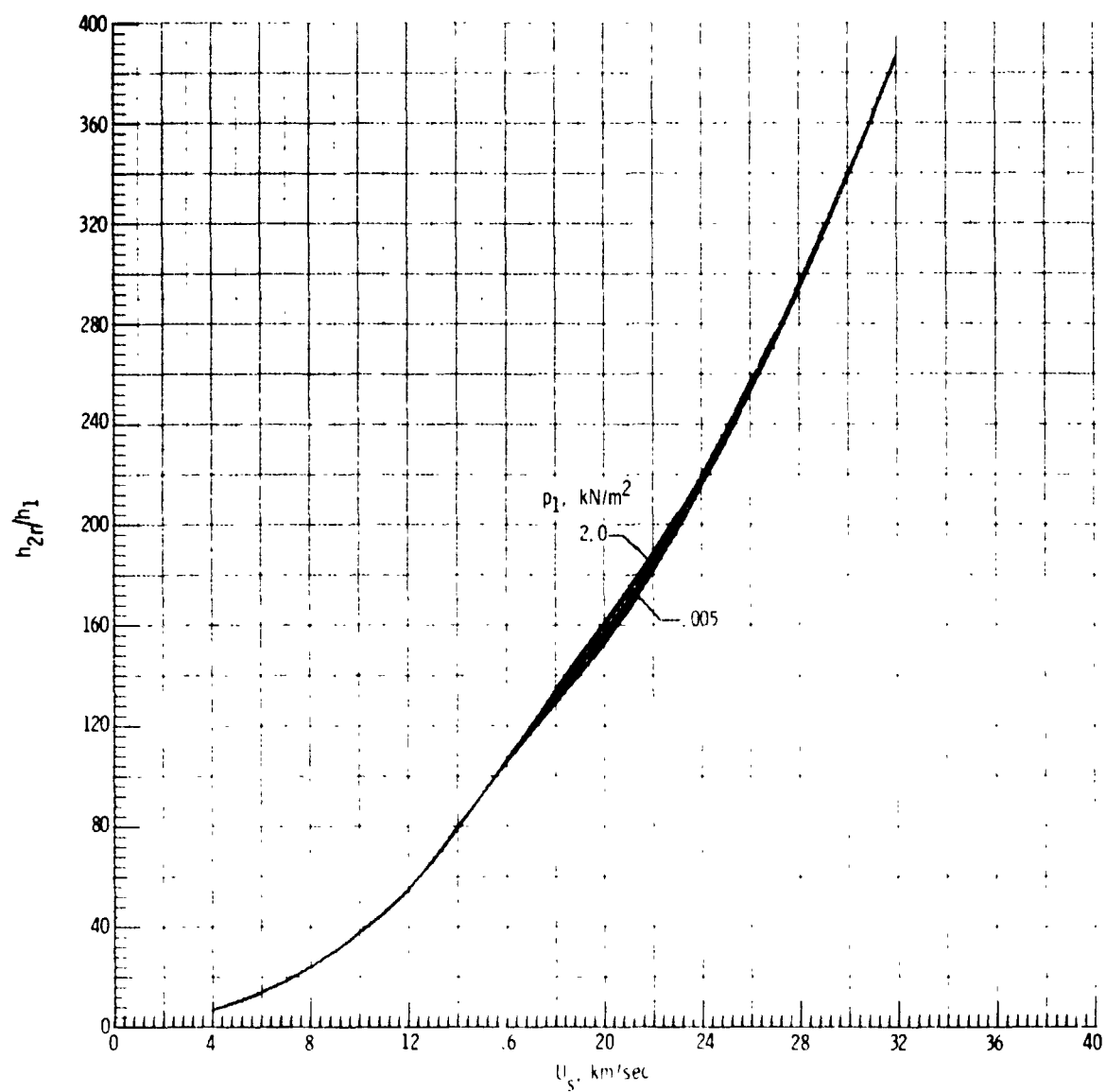
(b) Temperature T_{2r}/T_1 .

Figure 4.- Continued.

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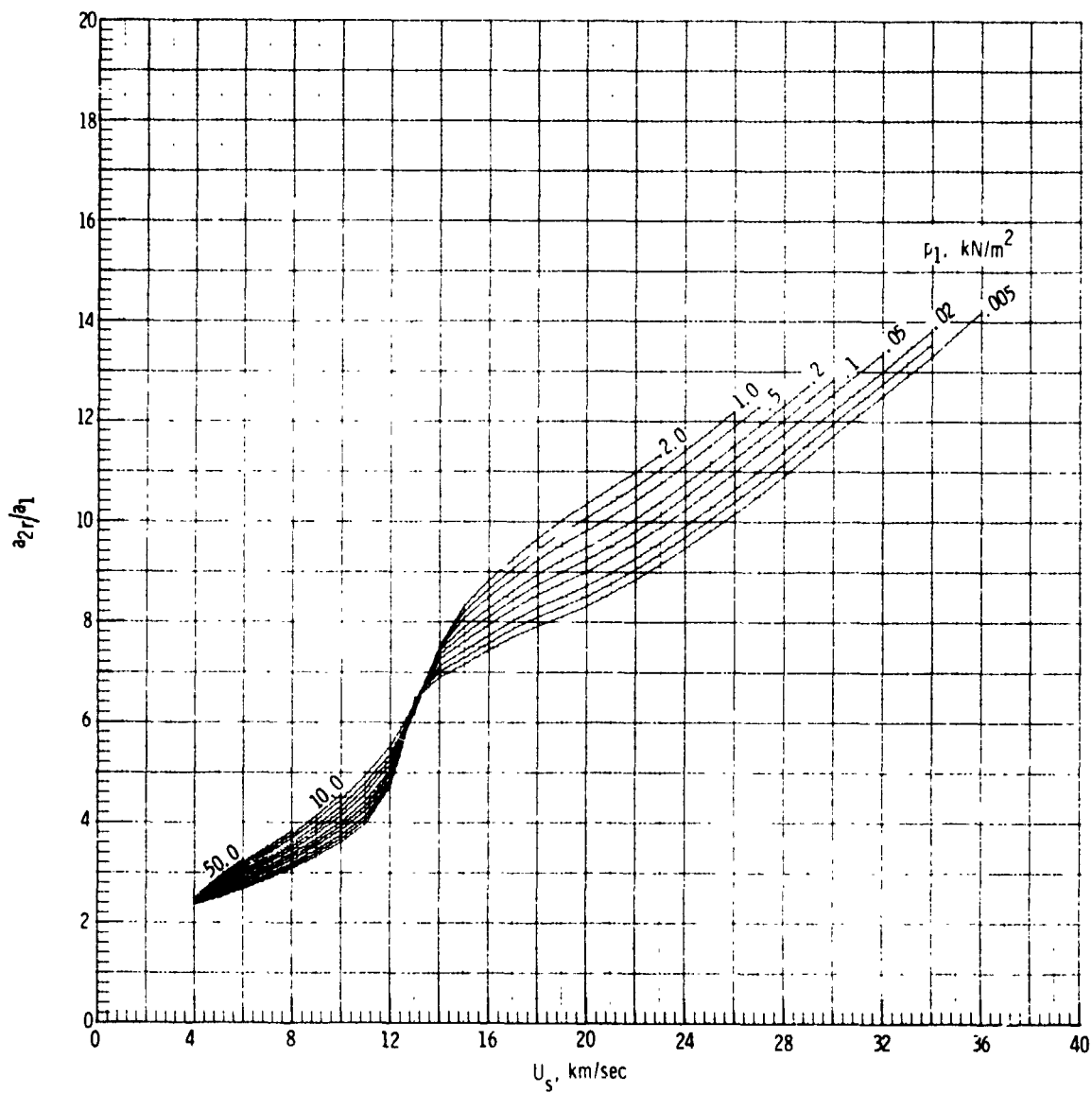


(c) Density ρ_{2r}/ρ_1 .
Figure 4.- Continued.



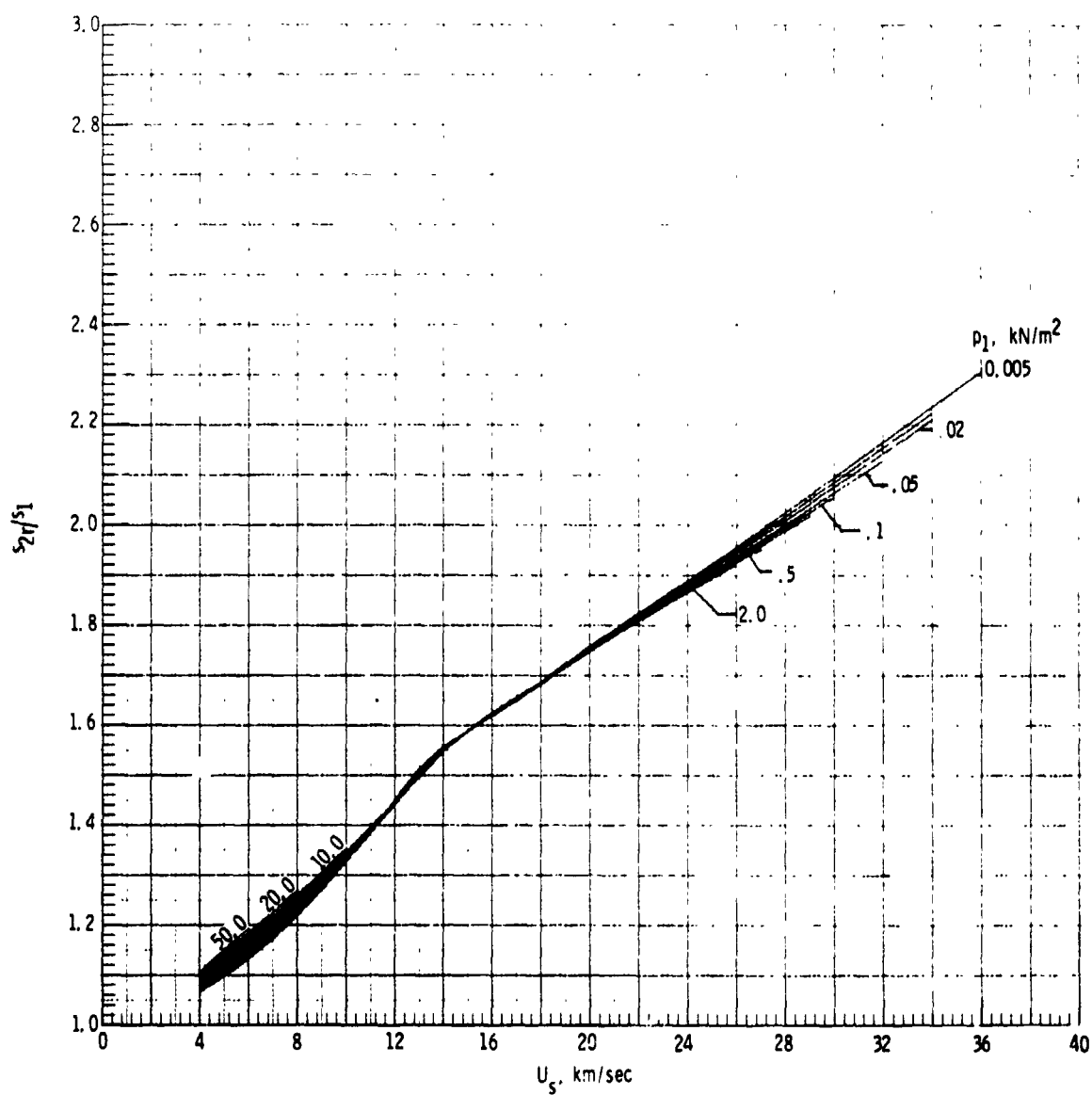
(d) Enthalpy h_{2r}/h_1 .

Figure 4.- Continued.



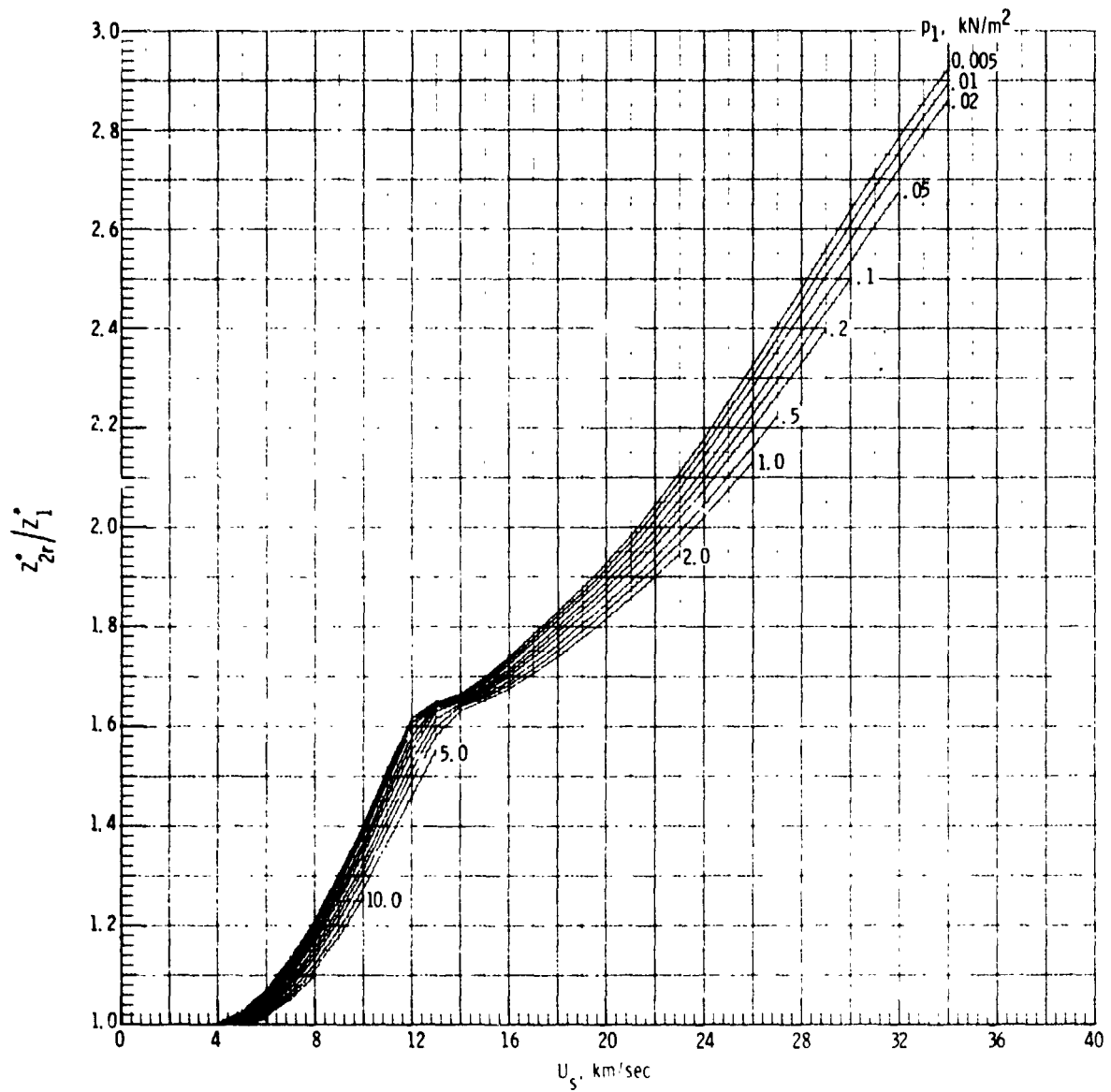
(e) Speed of sound a_{2r}/a_1 .

Figure 4. - Continued.



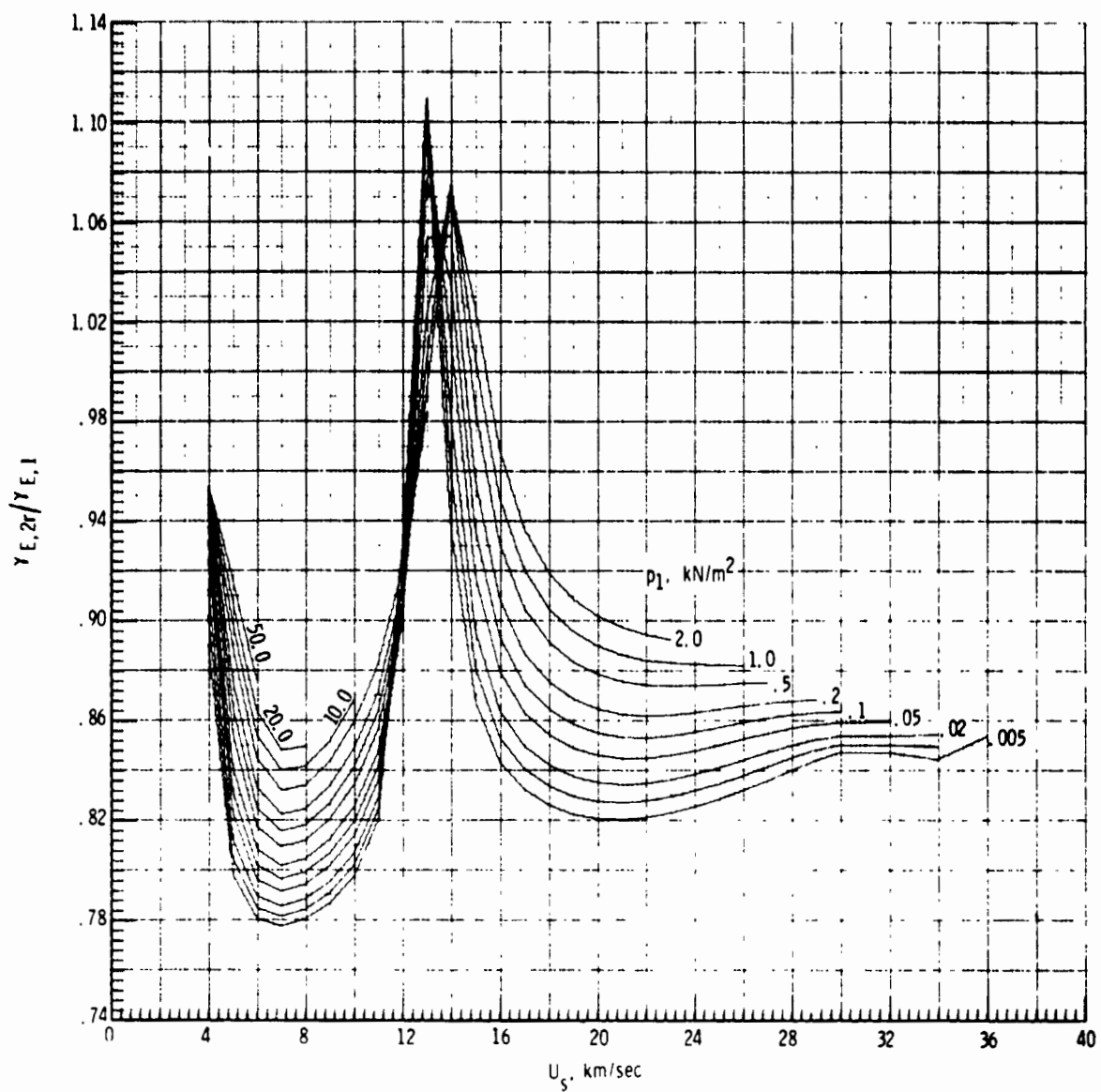
(f) Entropy s_{2r}/s_1 .

Figure 4.- Continued.



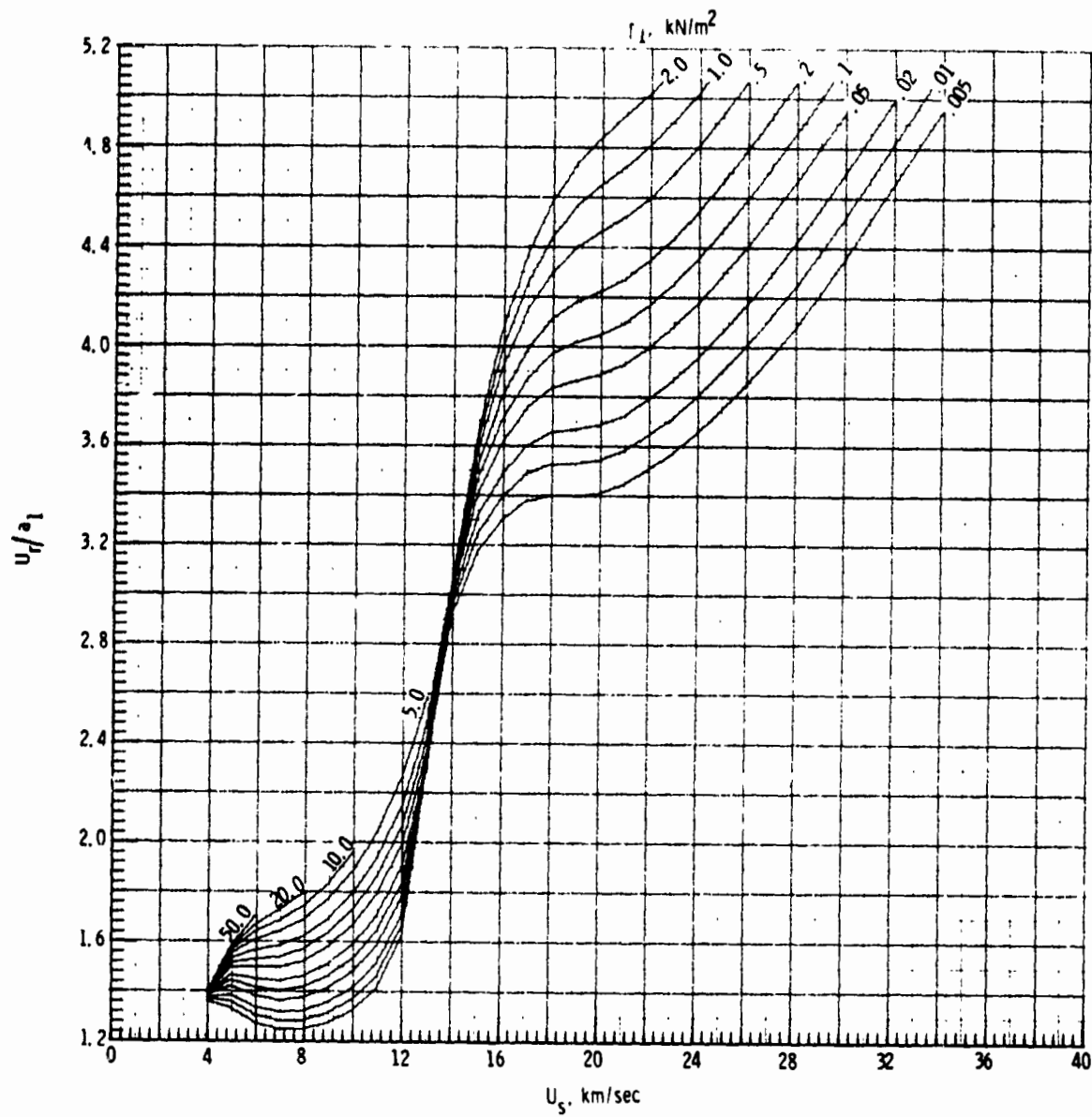
(g) Molecular-weight ratio Z_{2r}^*/Z_1^* .

Figure 4. - Continued.



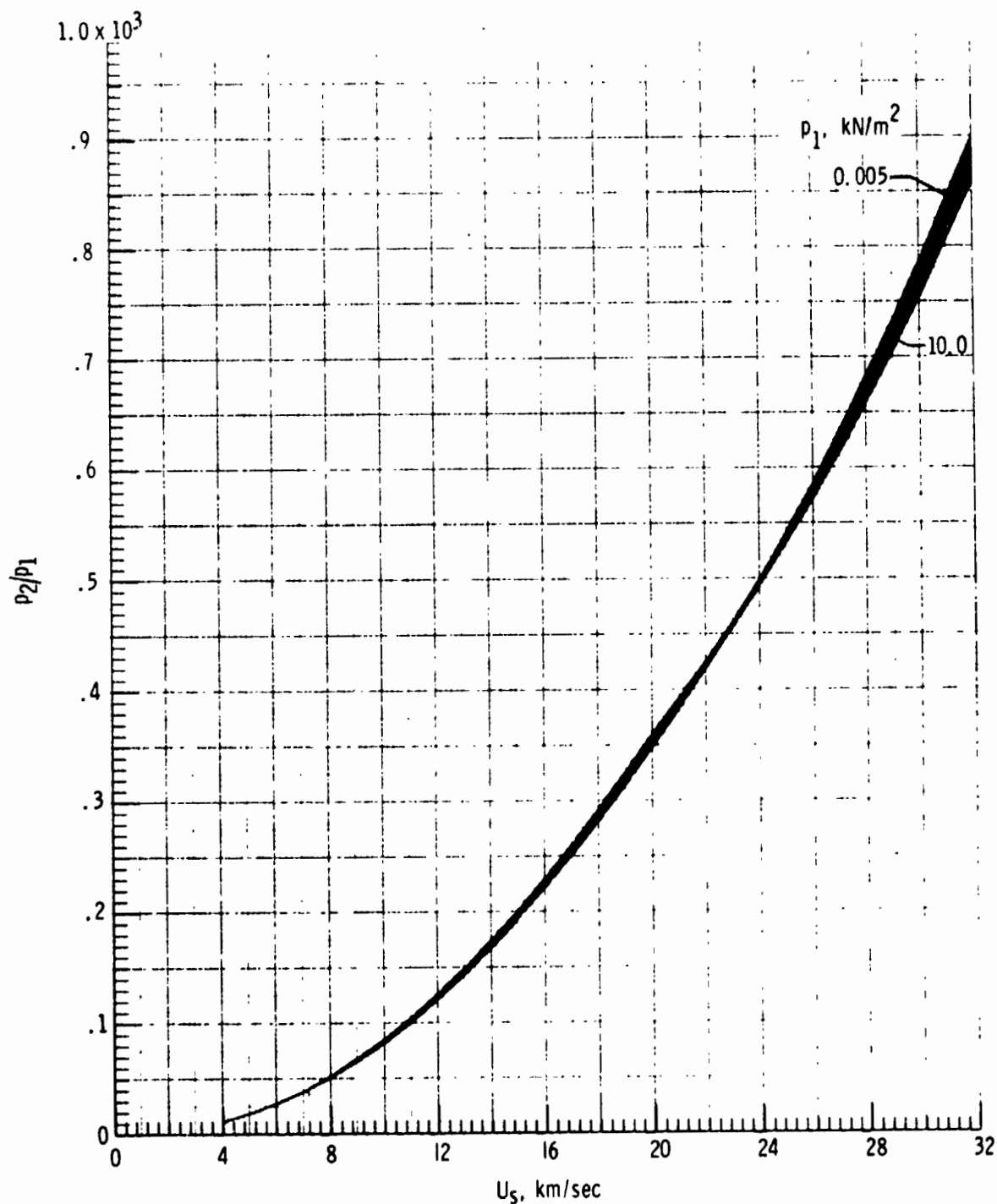
(h) Isentropic exponent $\gamma_{E,2r}/\gamma_{E,1}$

Figure 4. - Continued.



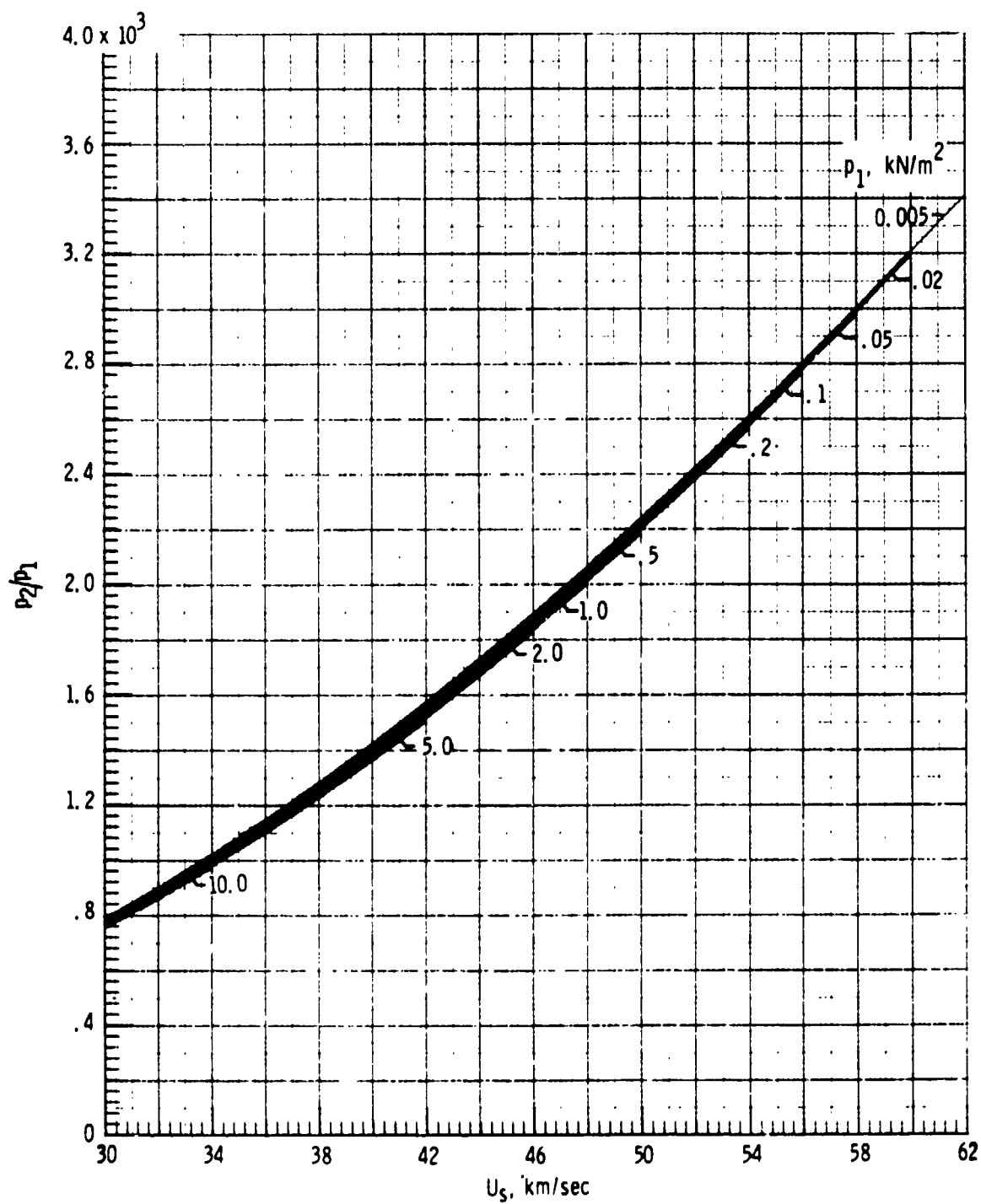
(i) Reflected shock velocity U_r/a_1 .

Figure 4.- Concluded.



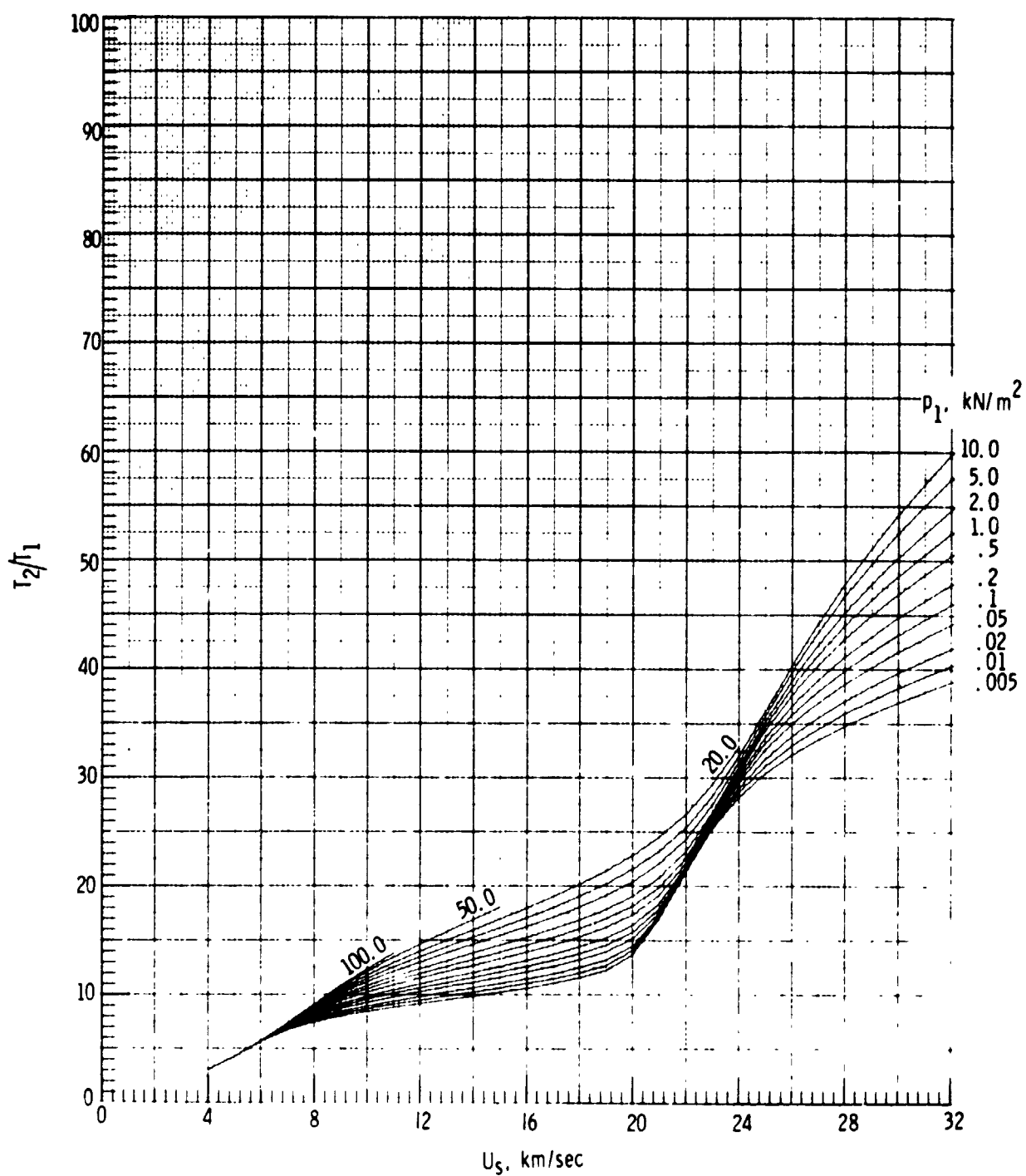
(a) Pressure p_2/p_1 .

Figure 5.- Thermodynamic properties and flow velocity behind an incident normal shock into a 0.20He-0.80H₂ mixture.



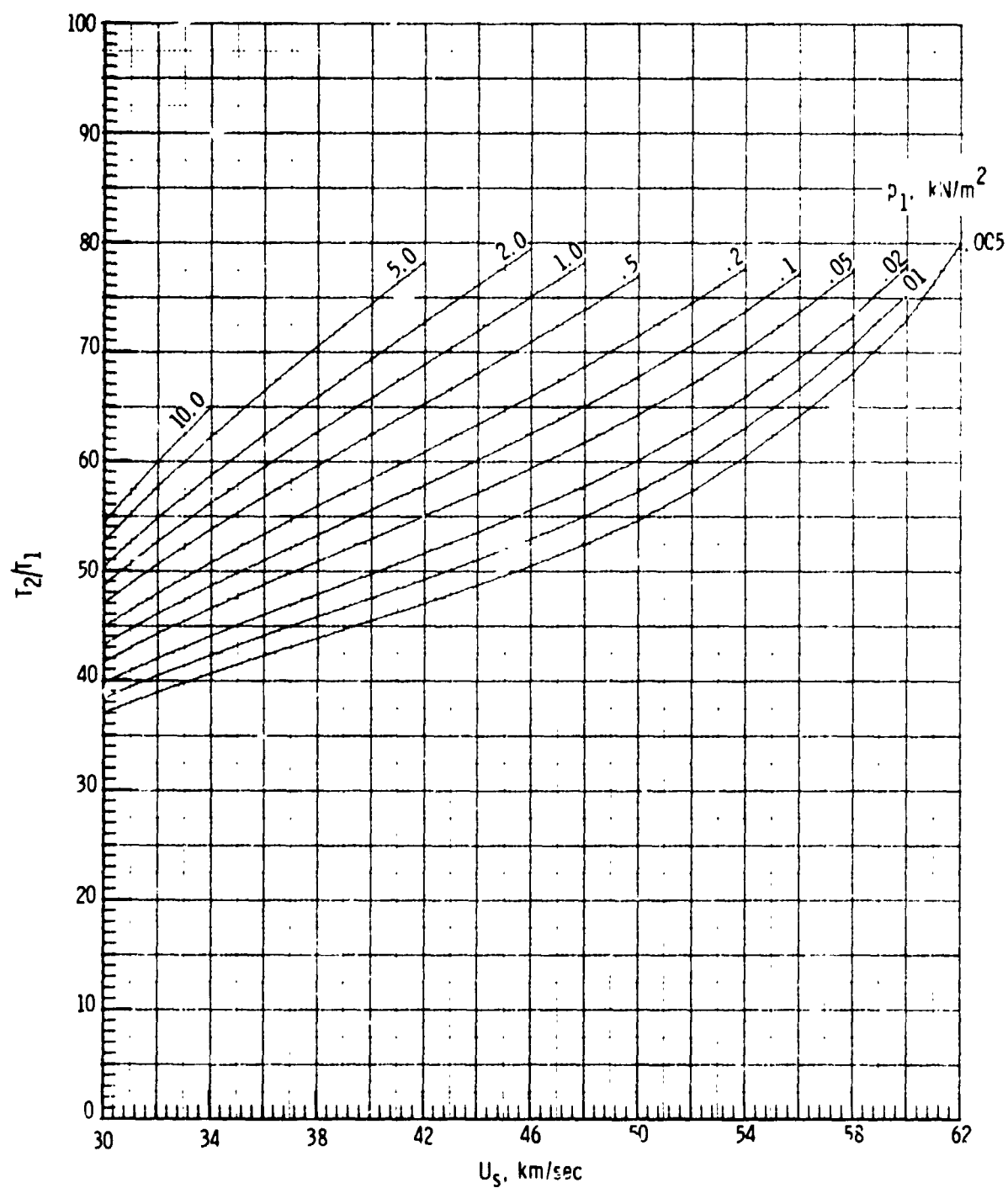
(a) Pressure p_2/p_1 . Concluded.

Figure 5.- Continued.



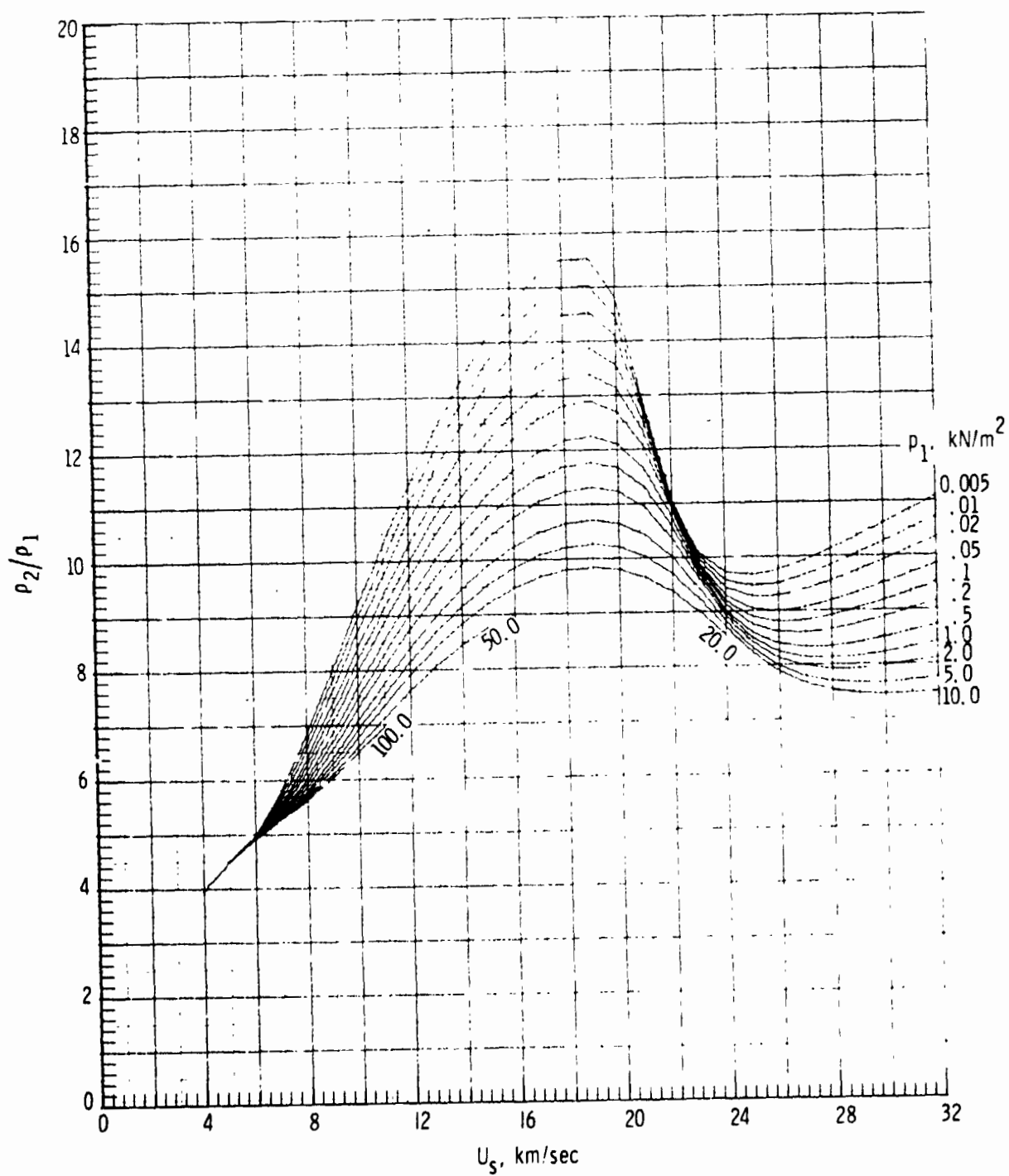
(b) Temperature T_2/T_1 .

Figure 5. - Continued.



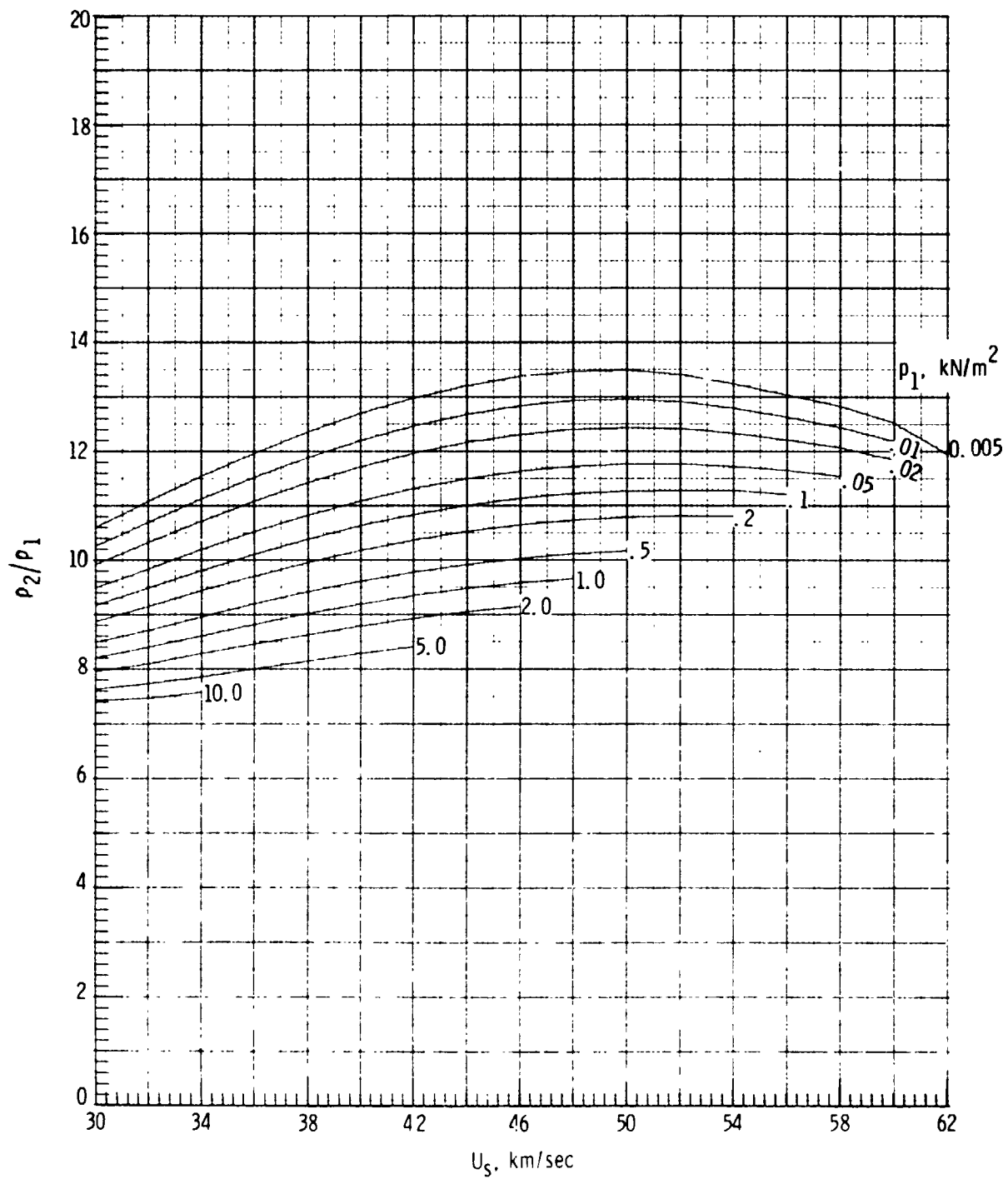
(b) Temperature T_2/T_1 . Concluded.

Figure 5.- Continued.



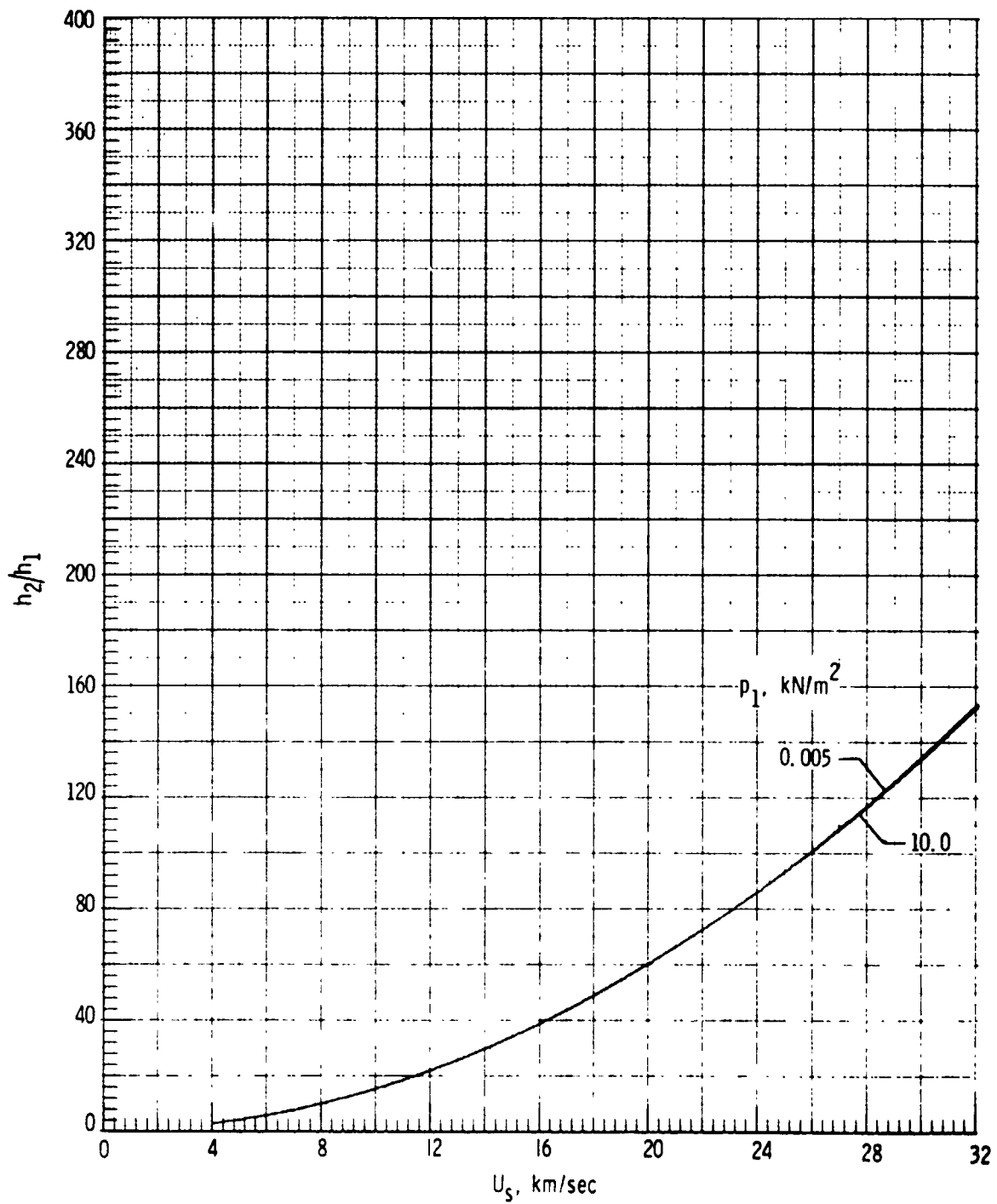
(c) Density ρ_2/ρ_1 .

Figure 5. - Continued.



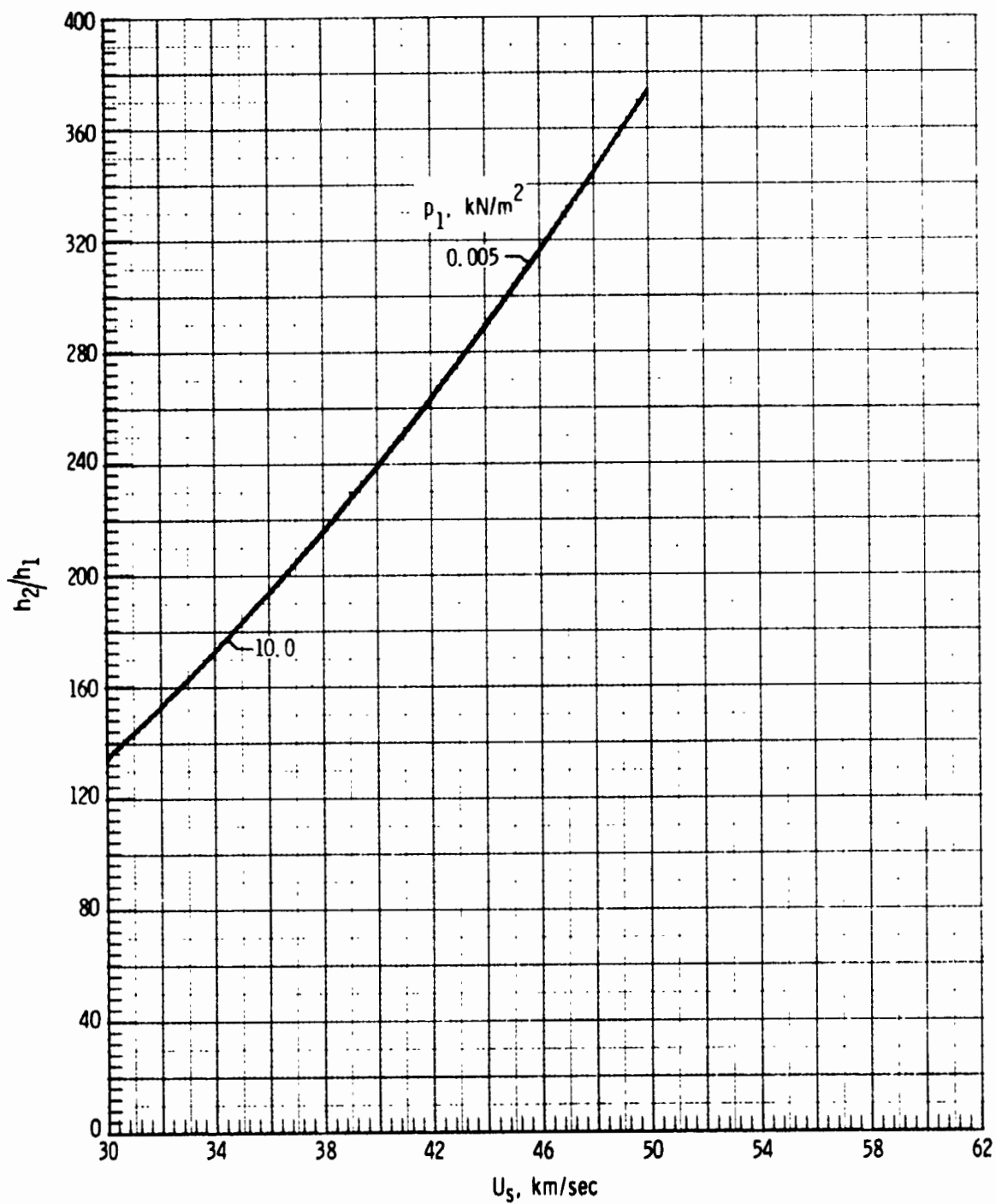
(c) Density ρ_2/ρ_1 . Concluded.

Figure 5.- Continued.



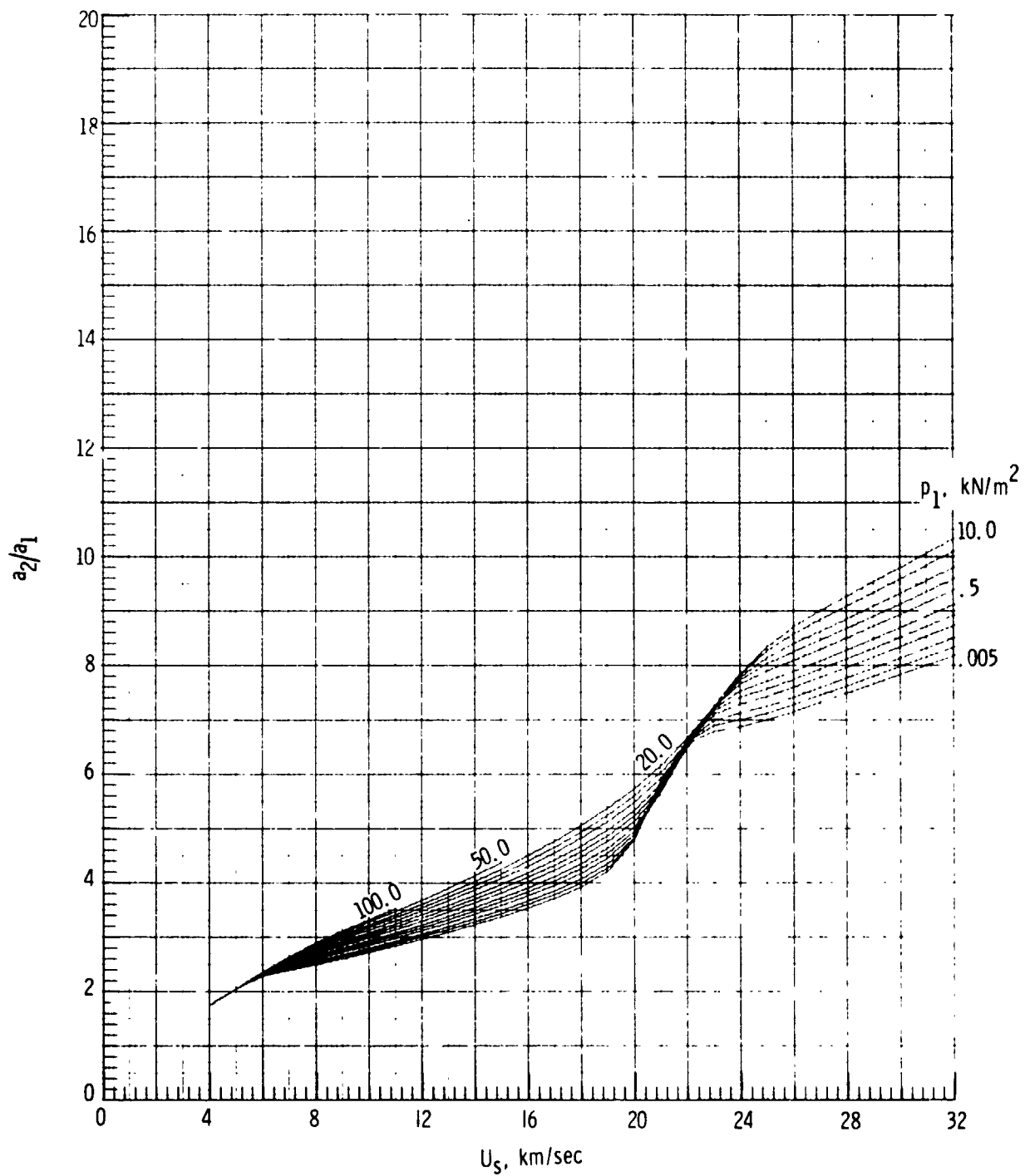
(d) Enthalpy h_2/h_1 .

Figure 5. - Continued.



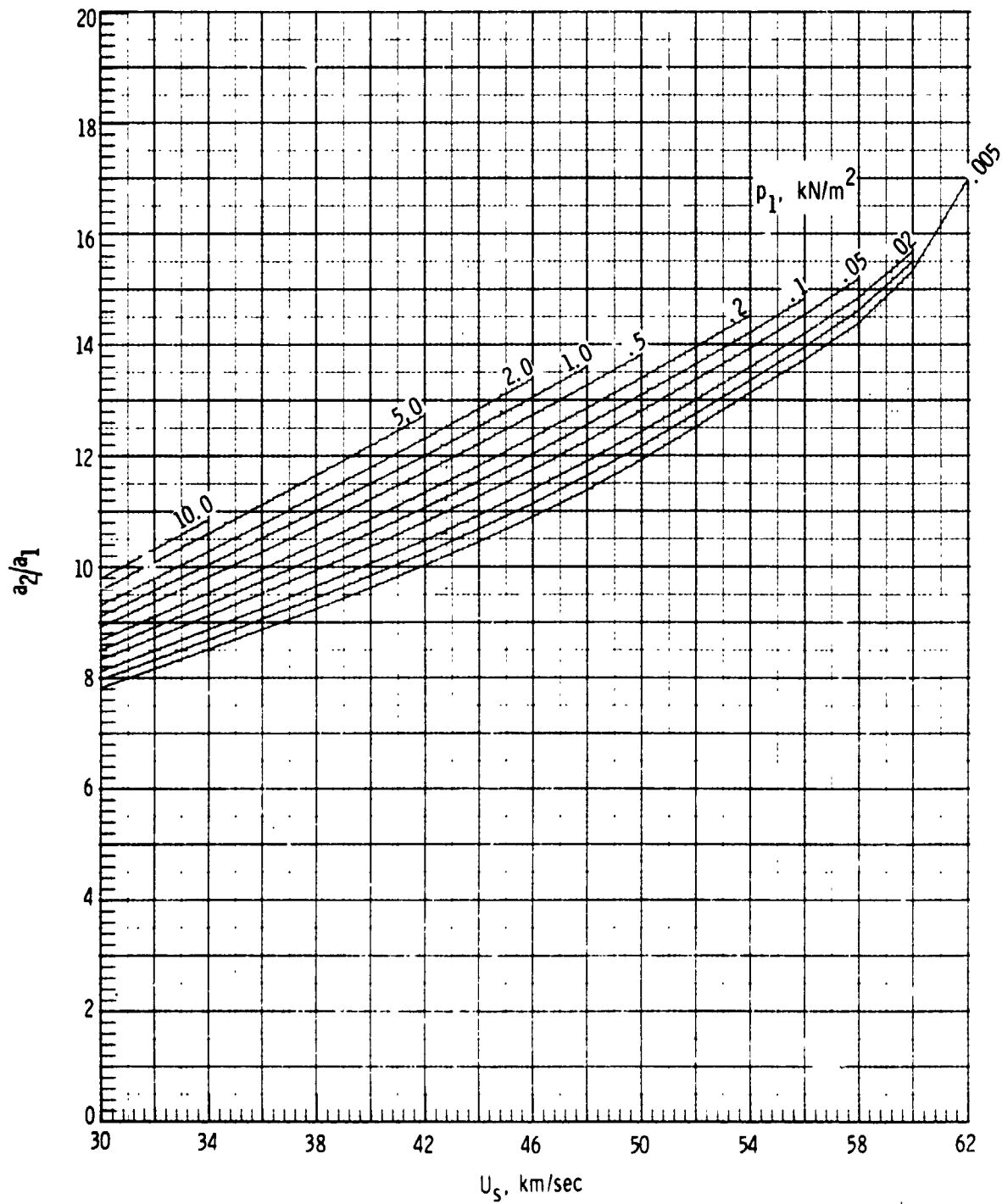
(d) Enthalpy h_2/h_1 . Concluded.

Figure 5. - Continued.



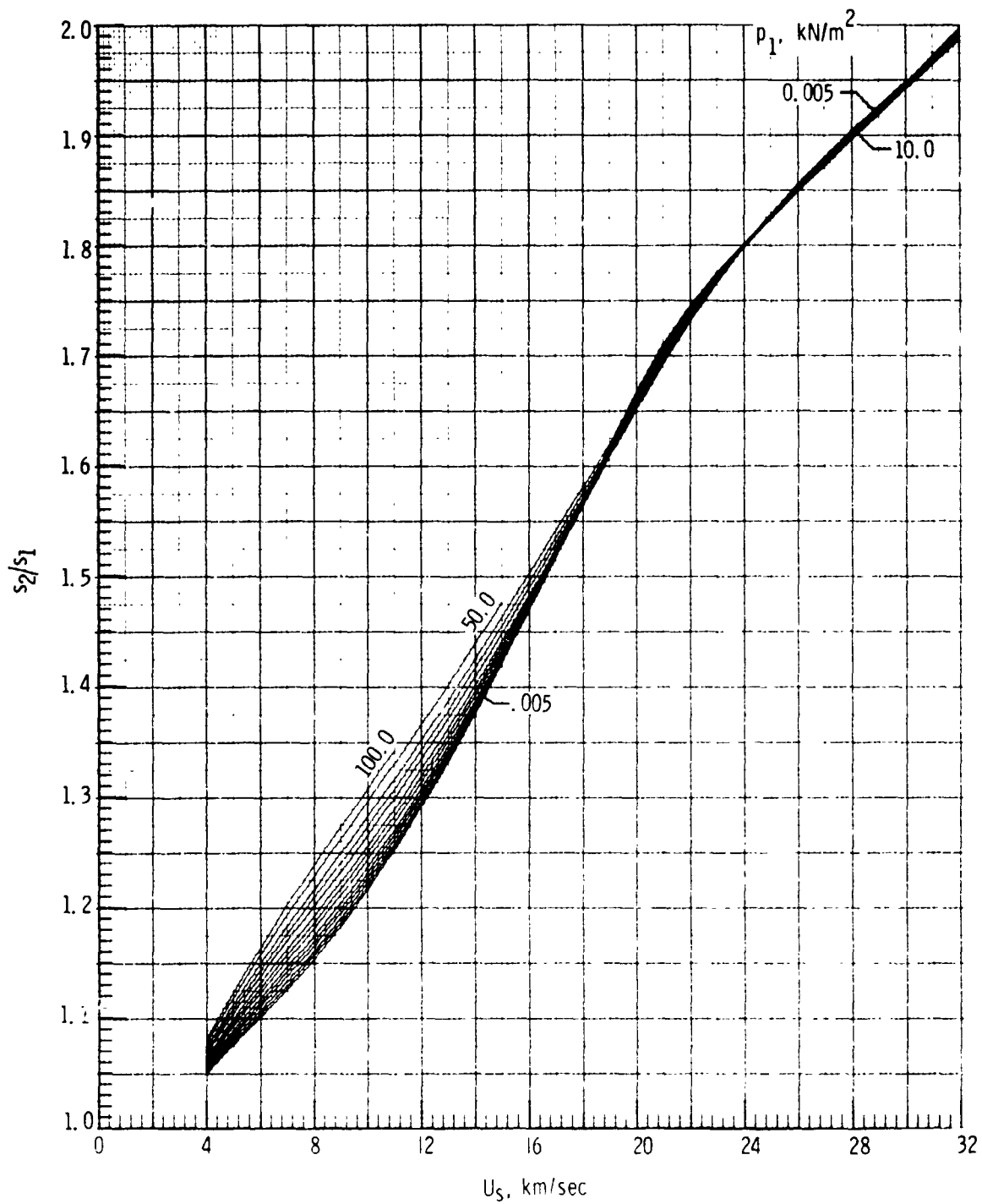
(e) Speed of sound a_2/a_1 .

Figure 5.- Continued.



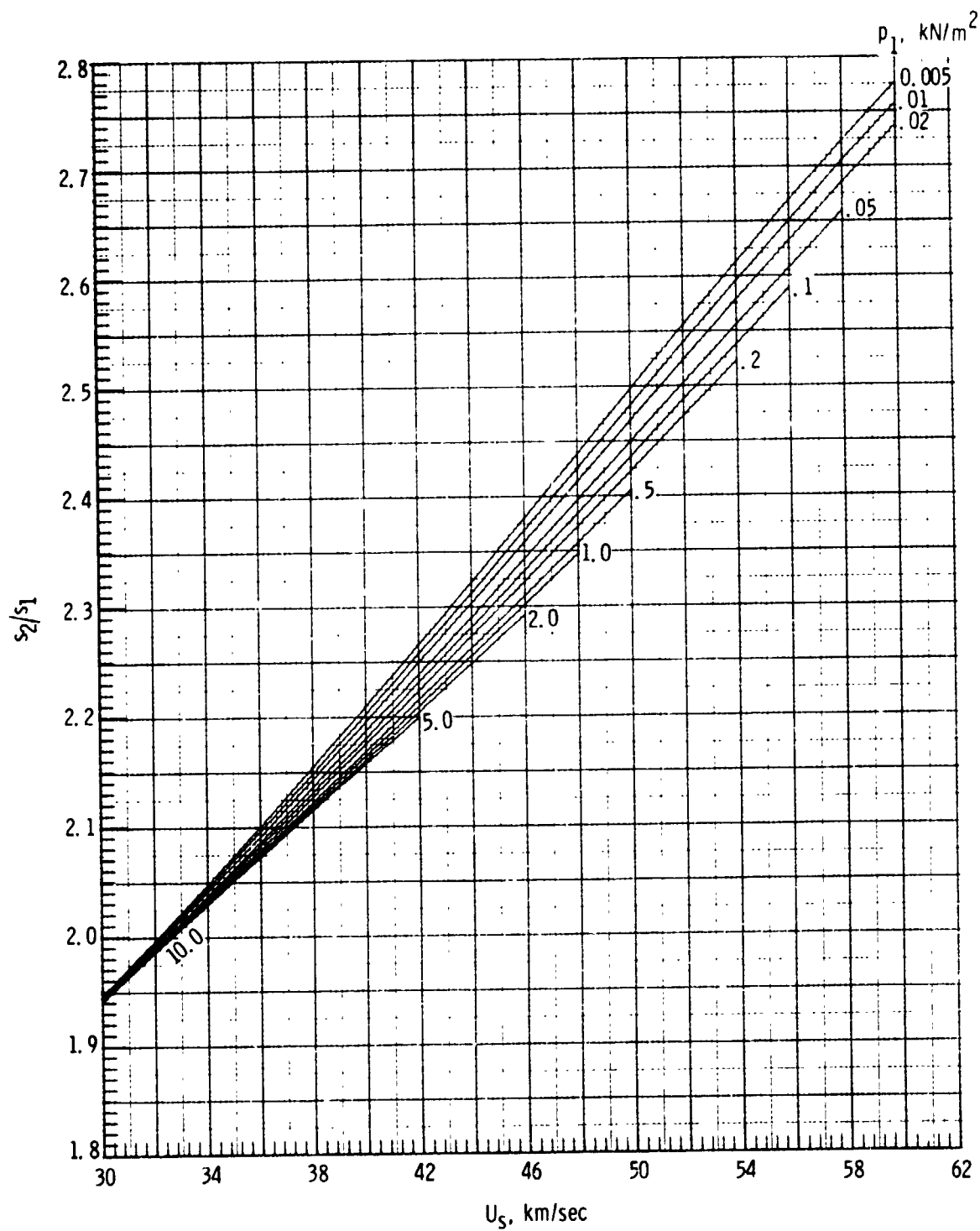
(e) Speed of sound a_2/a_1 . Concluded.

Figure 5.- Continued.



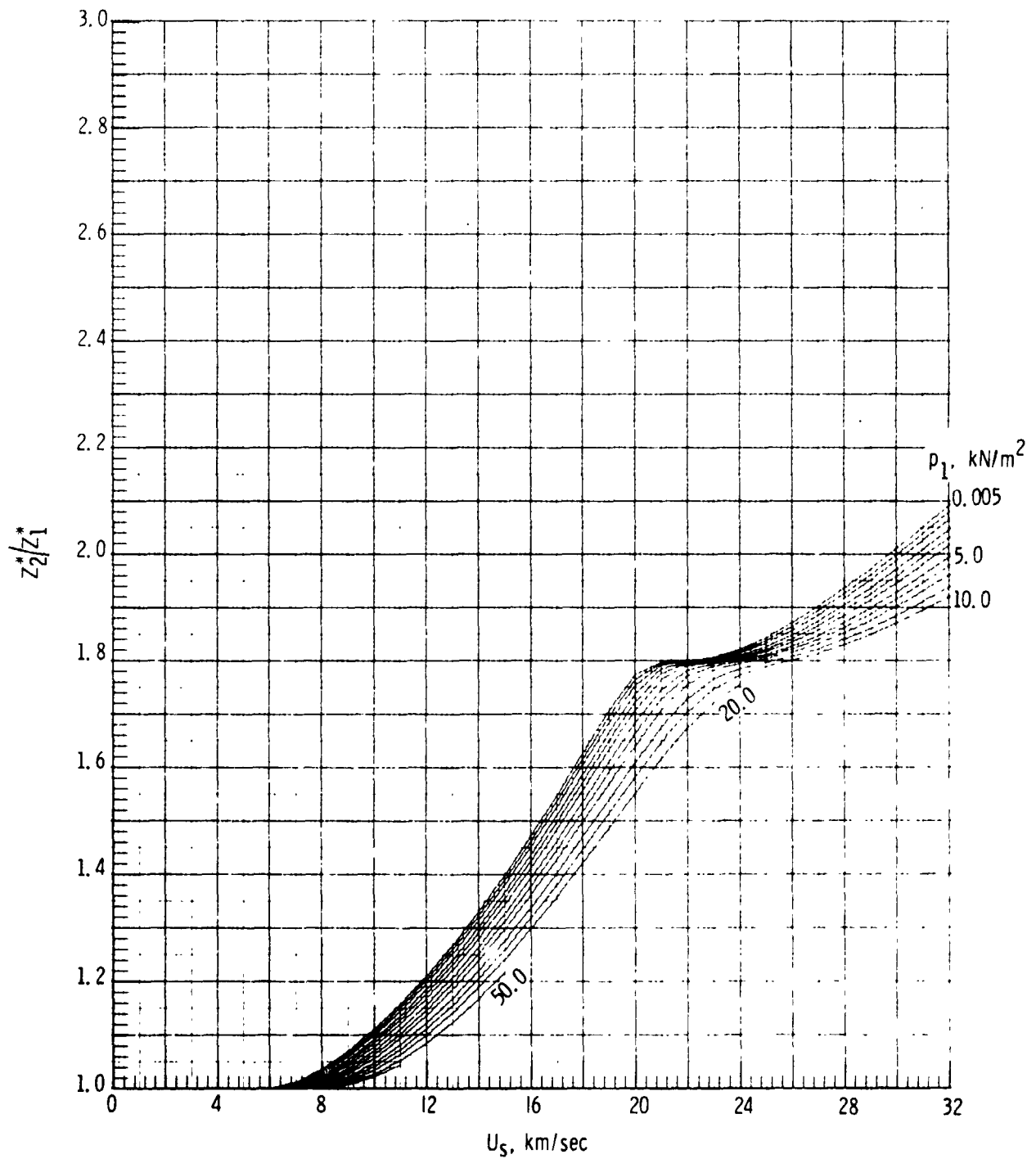
(f) Entropy s_2, s_1 .

Figure 5.- Continued.



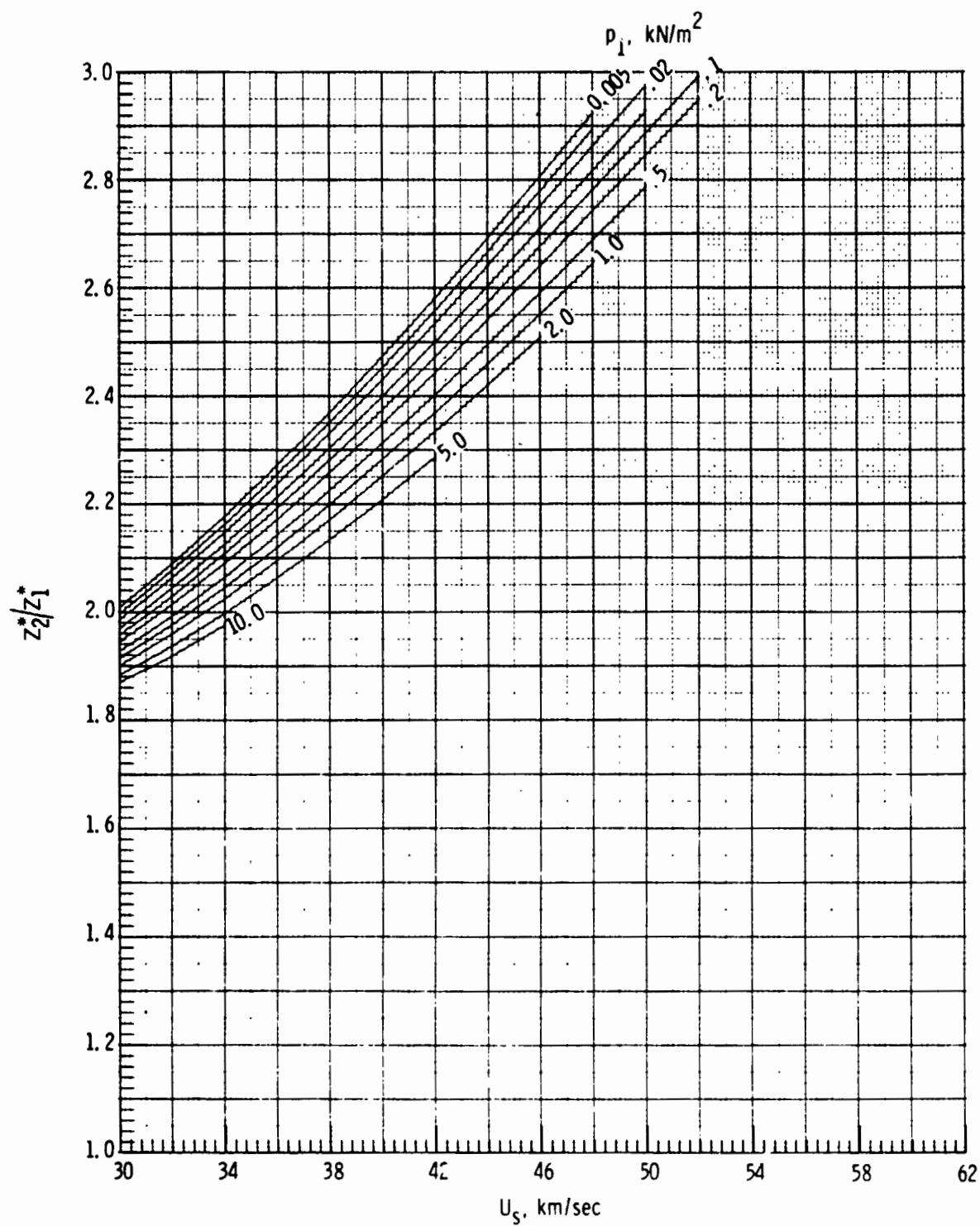
(f) Entropy s_2/s_1 . Concluded.

Figure 5. - Continued.



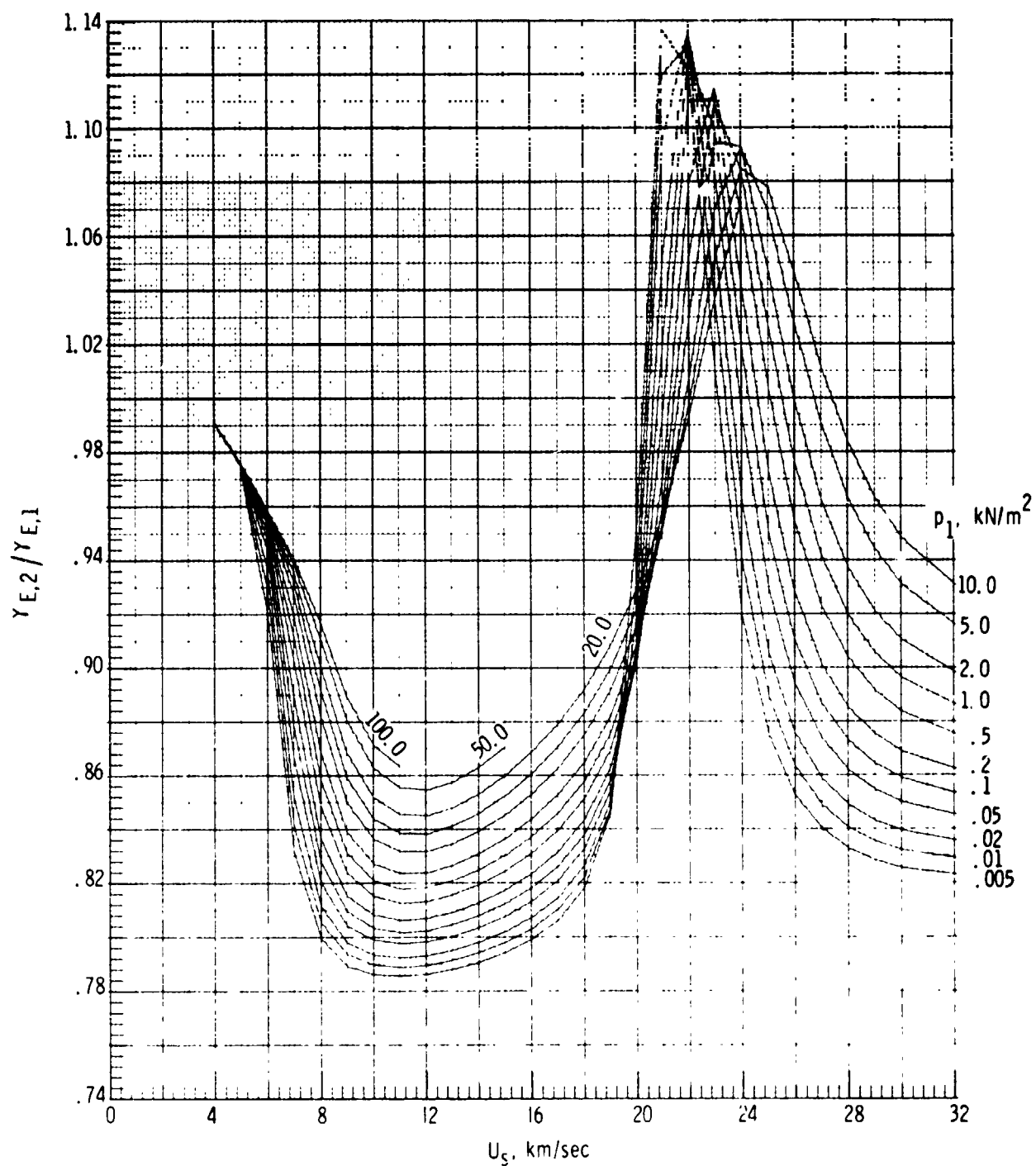
(g) Molecular-weight ratio Z_2^*/Z_1^* .

Figure 5.- Continued.



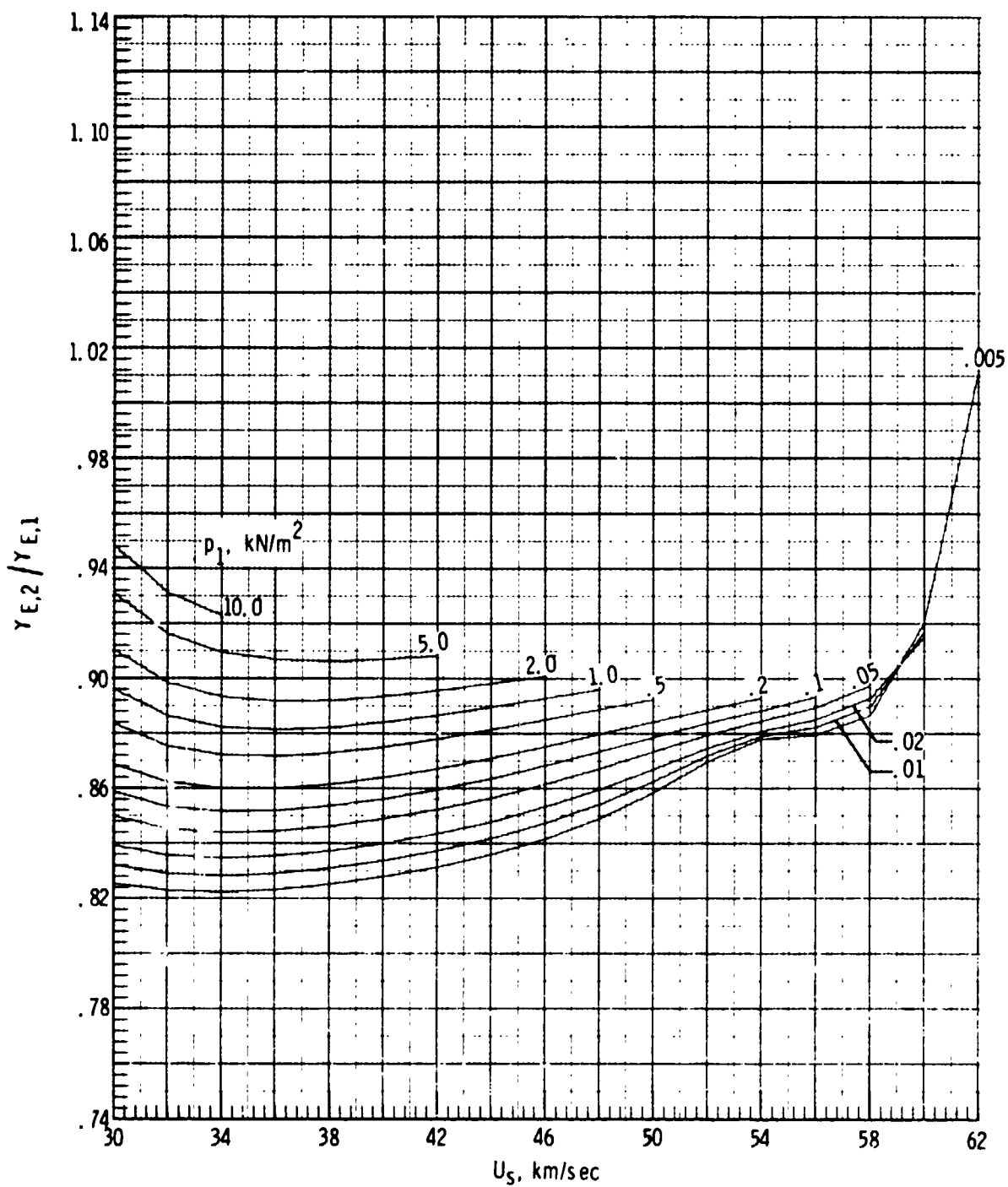
(g) Molecular-weight ratio Z_2^*/Z_1^* . Concluded.

Figure 5.- Continued.



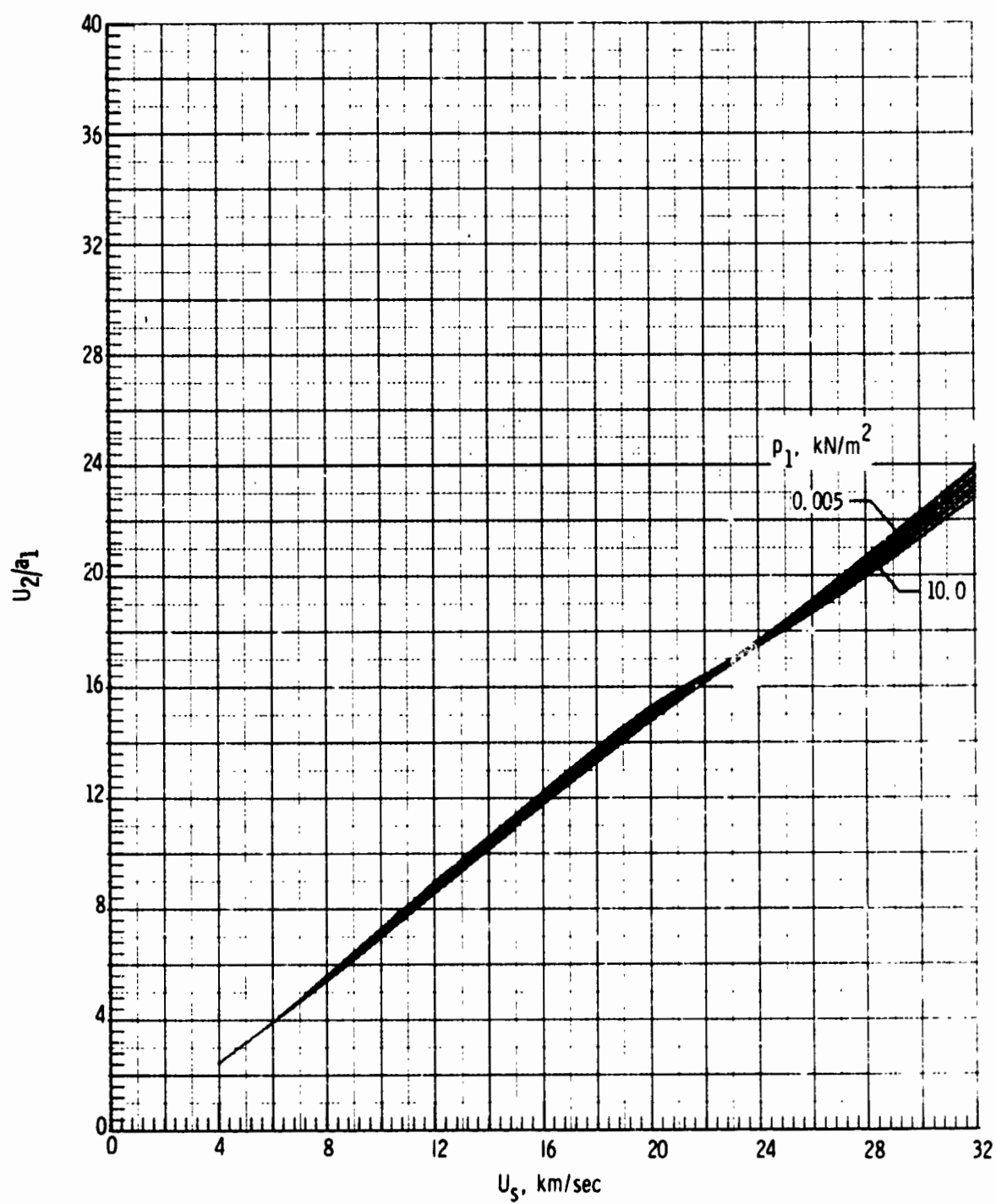
(h) Isentropic exponent $\gamma_{E,2}/\gamma_{E,1}$

Figure 5.- Continued.



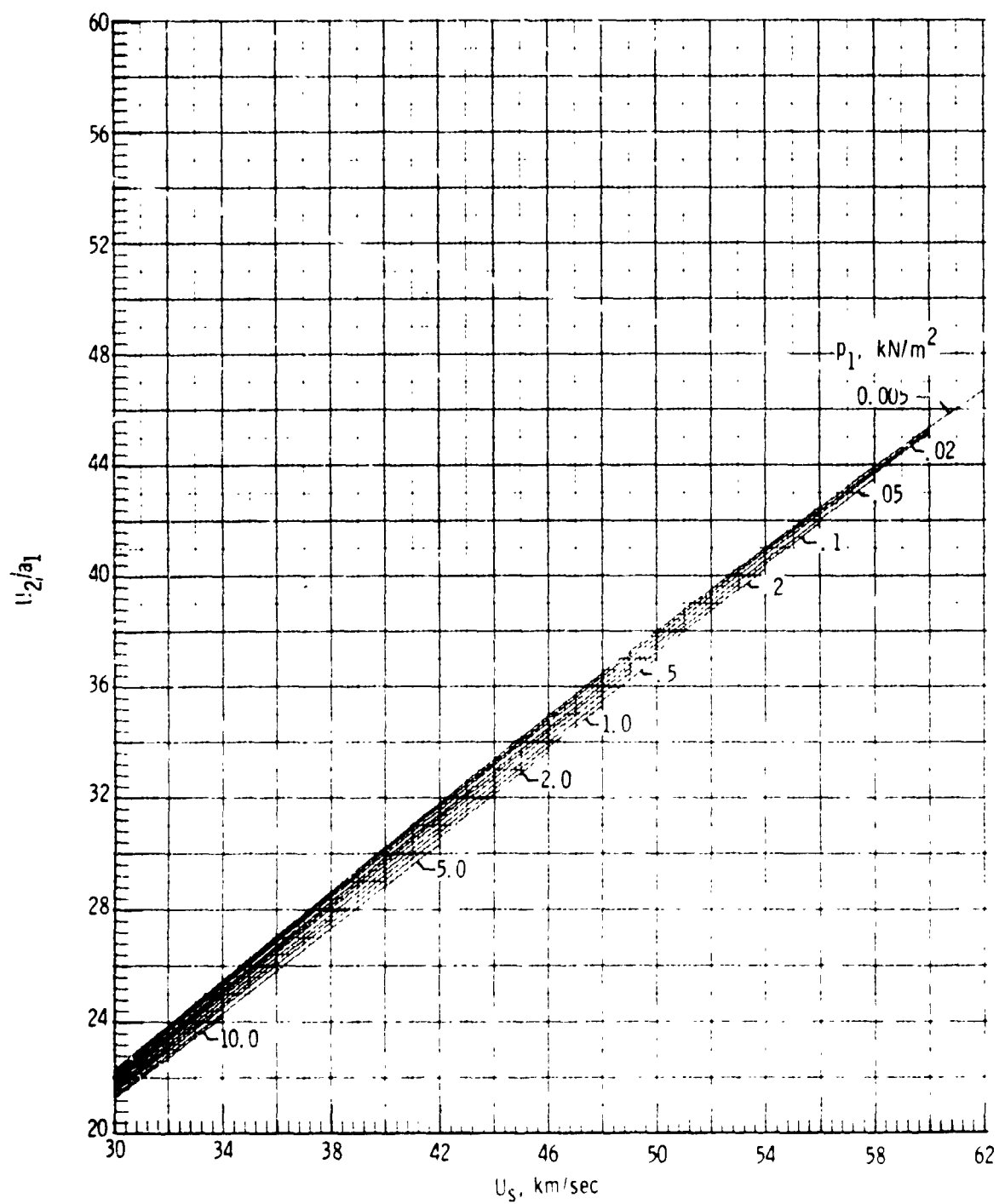
(h) Isentropic exponent $\gamma_{E,2}/\gamma_{E,1}$ Continued.

Figure 5. - Continued.



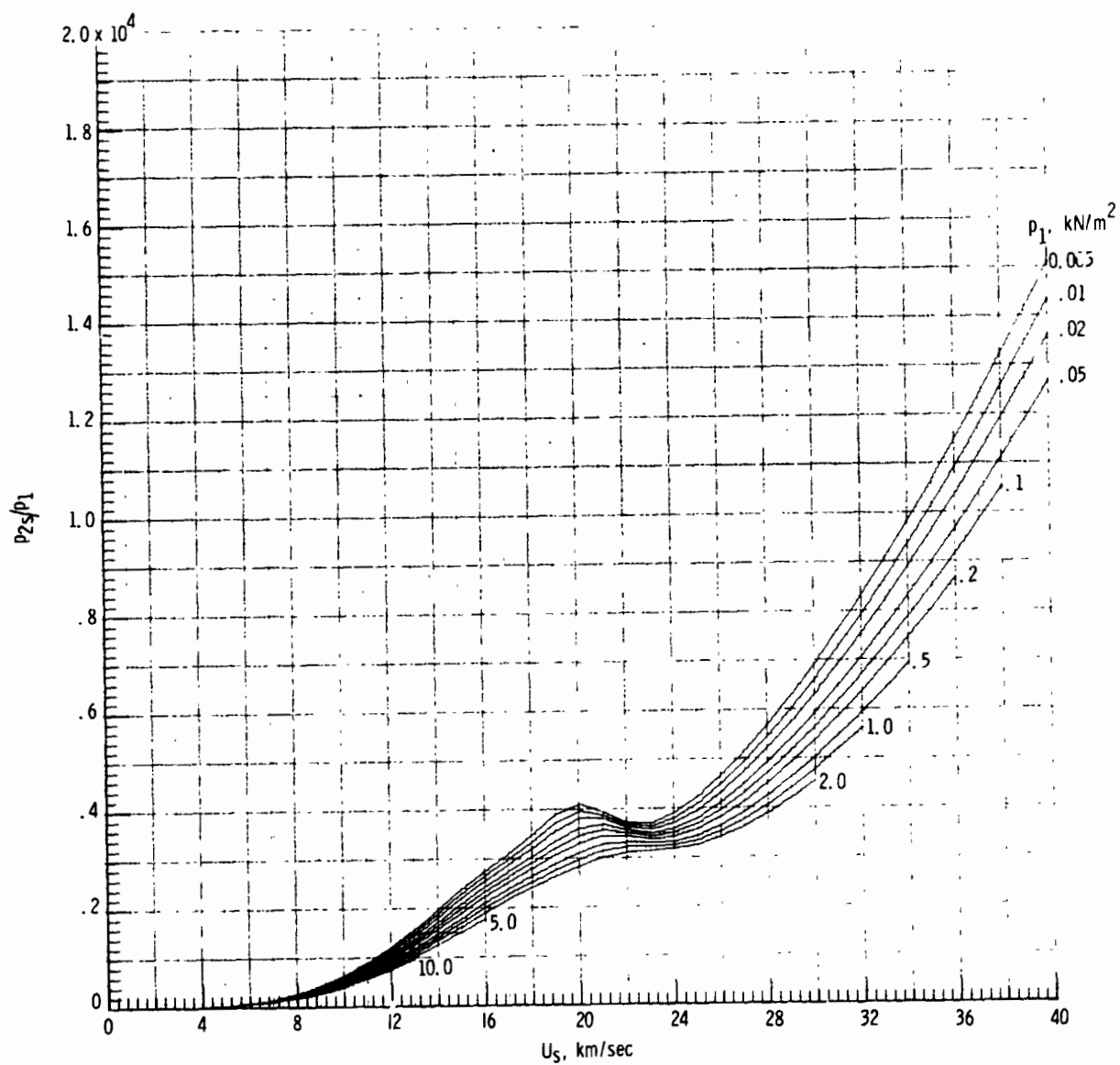
(i) Flow velocity U_2/a_1 .

Figure 5.- Continued.



(i) Flow velocity U_2/a_1 . Concluded.

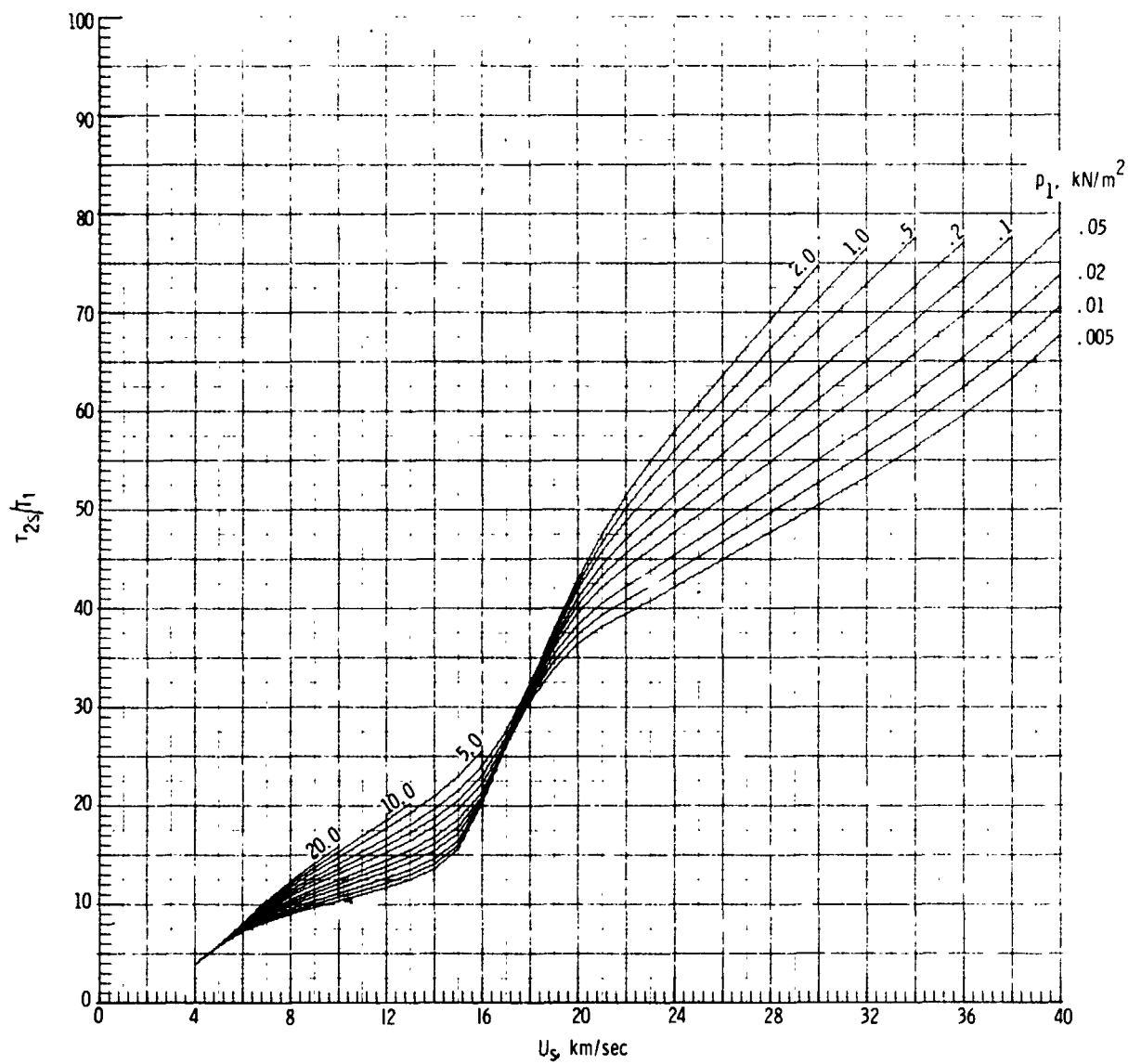
Figure 5.- Concluded.



(a) Pressure p_{2s}/p_1 .

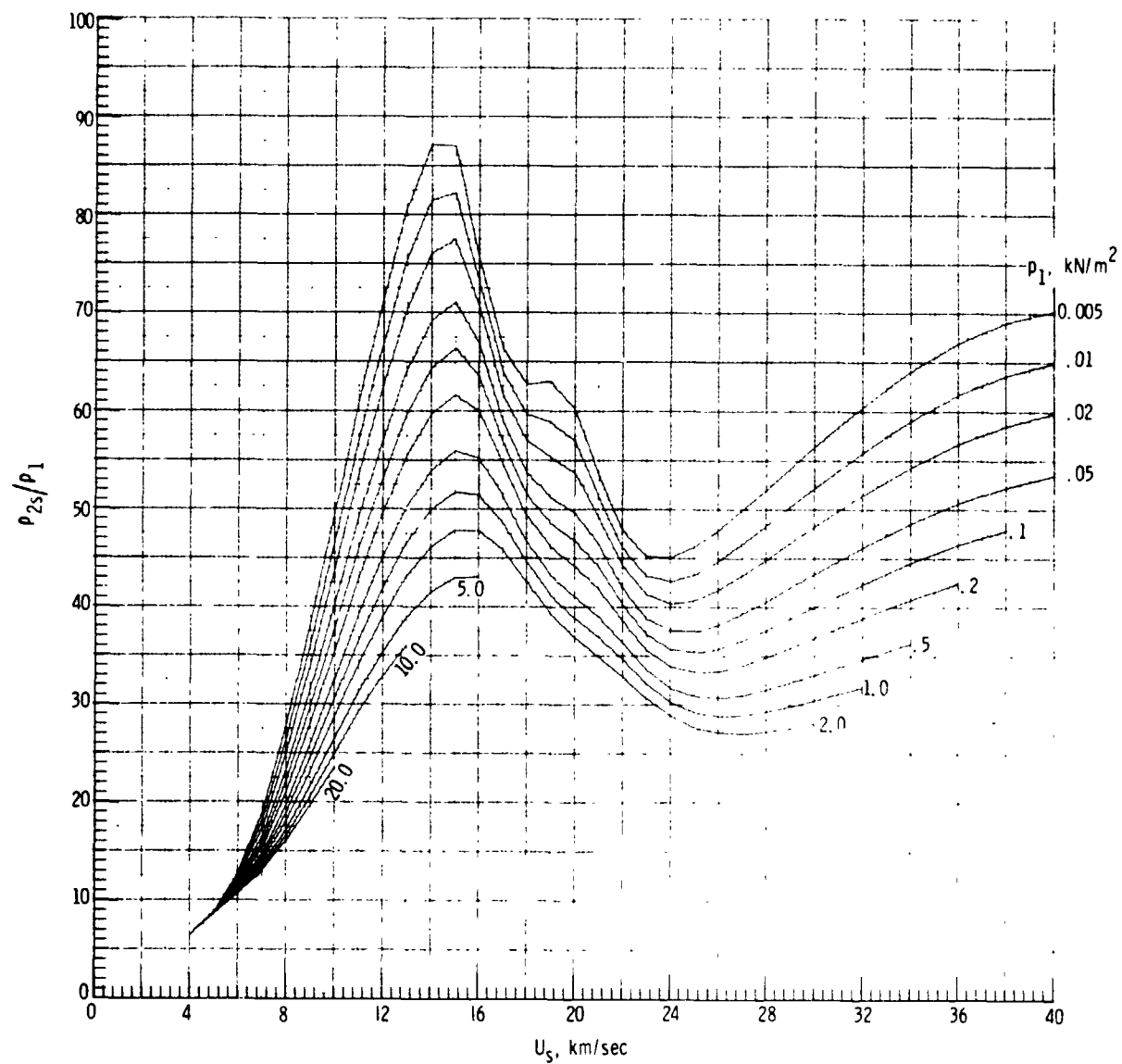
Figure 6.- Thermodynamic properties and flow velocity behind a standing normal shock for a 0.20He-0.80H₂ mixture.

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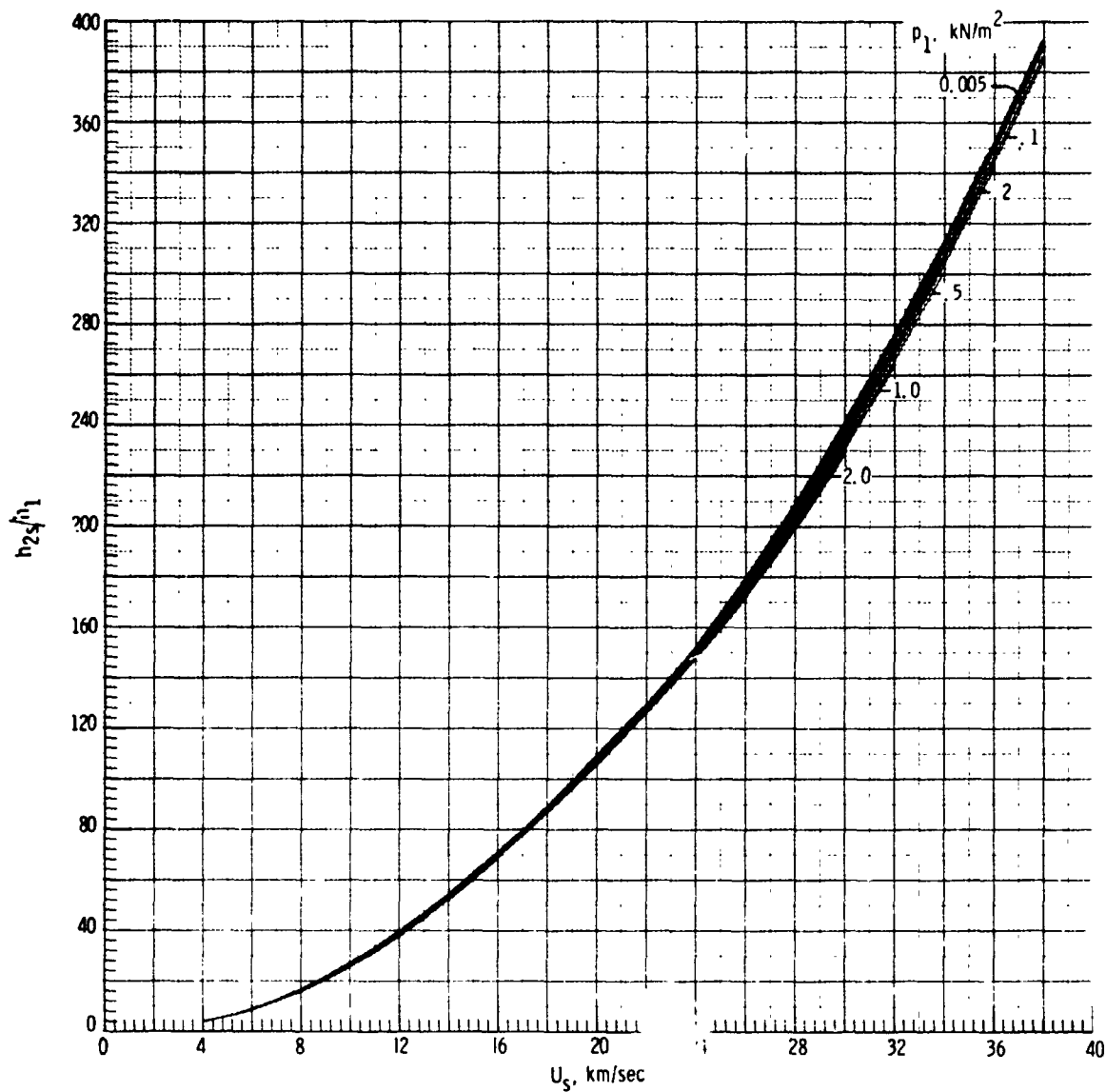
(b) Temperature T_{2s}/T_1 .

Figure 6.- Continued.



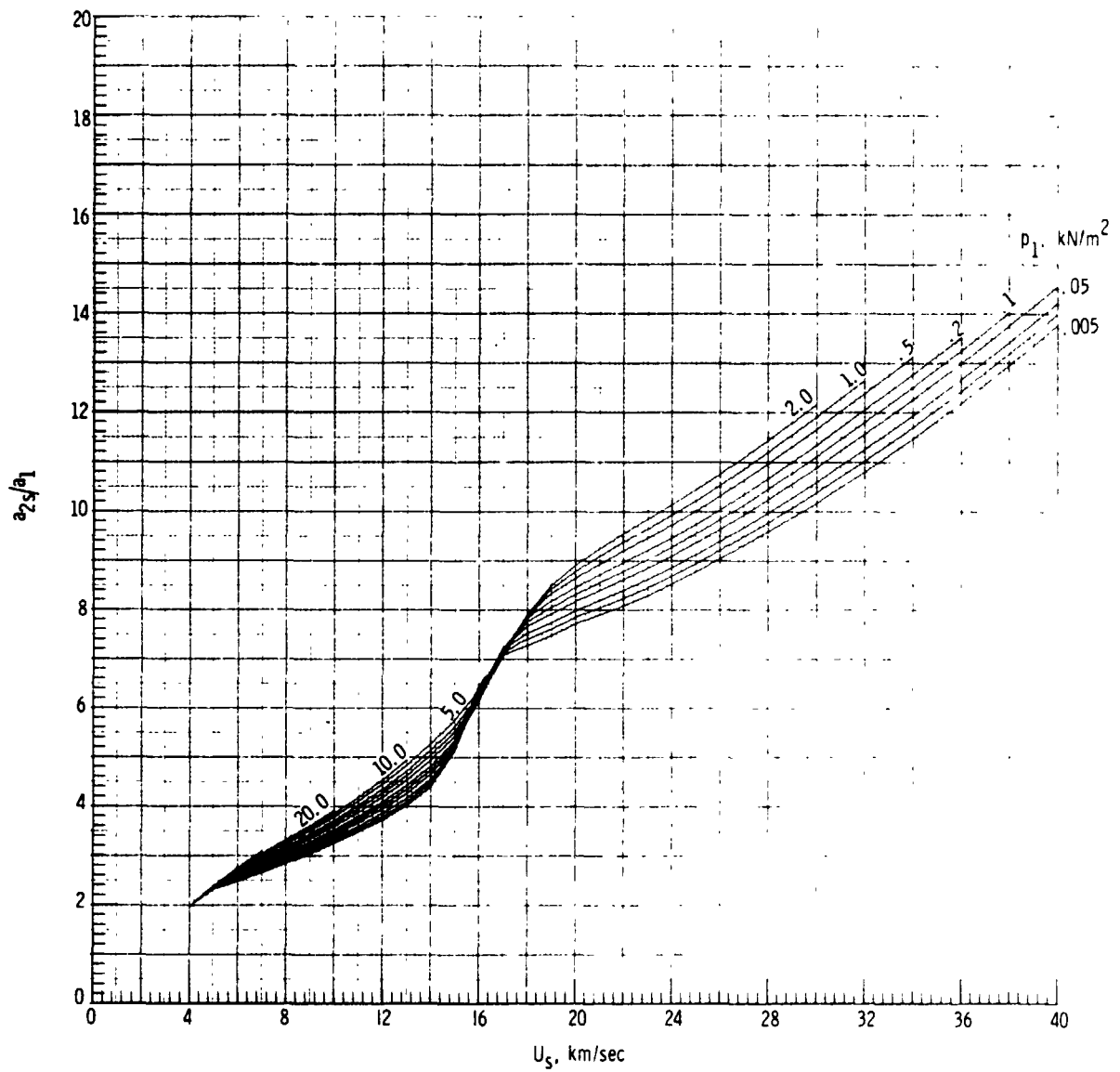
(c) Density ρ_{2s}/ρ_1 .

Figure 6.- Continued.



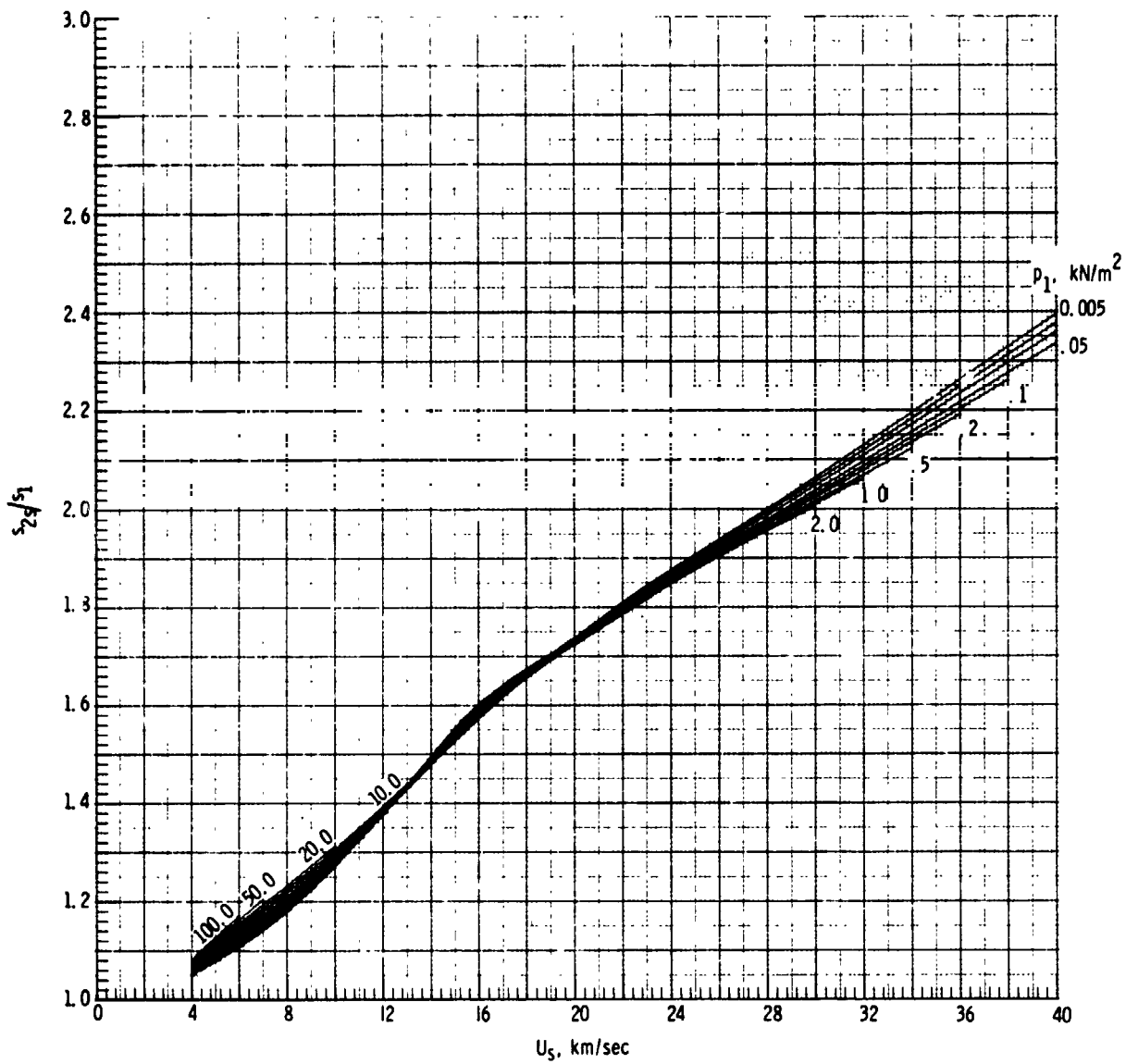
(d) Enthalpy h_{2s}/h_1 .

Figure 6.- Continued.



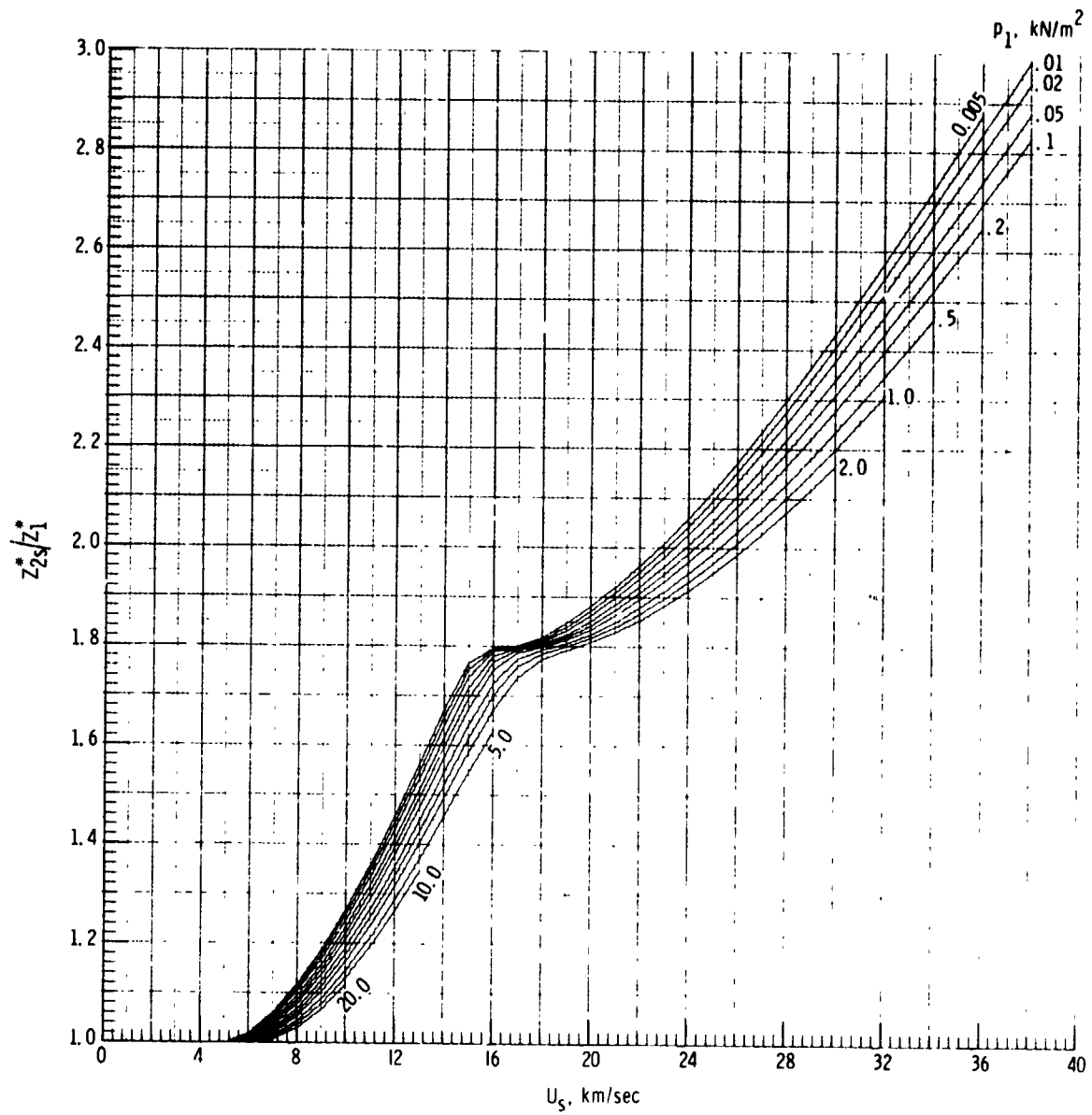
(e) Speed of sound a_{2s}/a_1 .

Figure 6. - Continued.



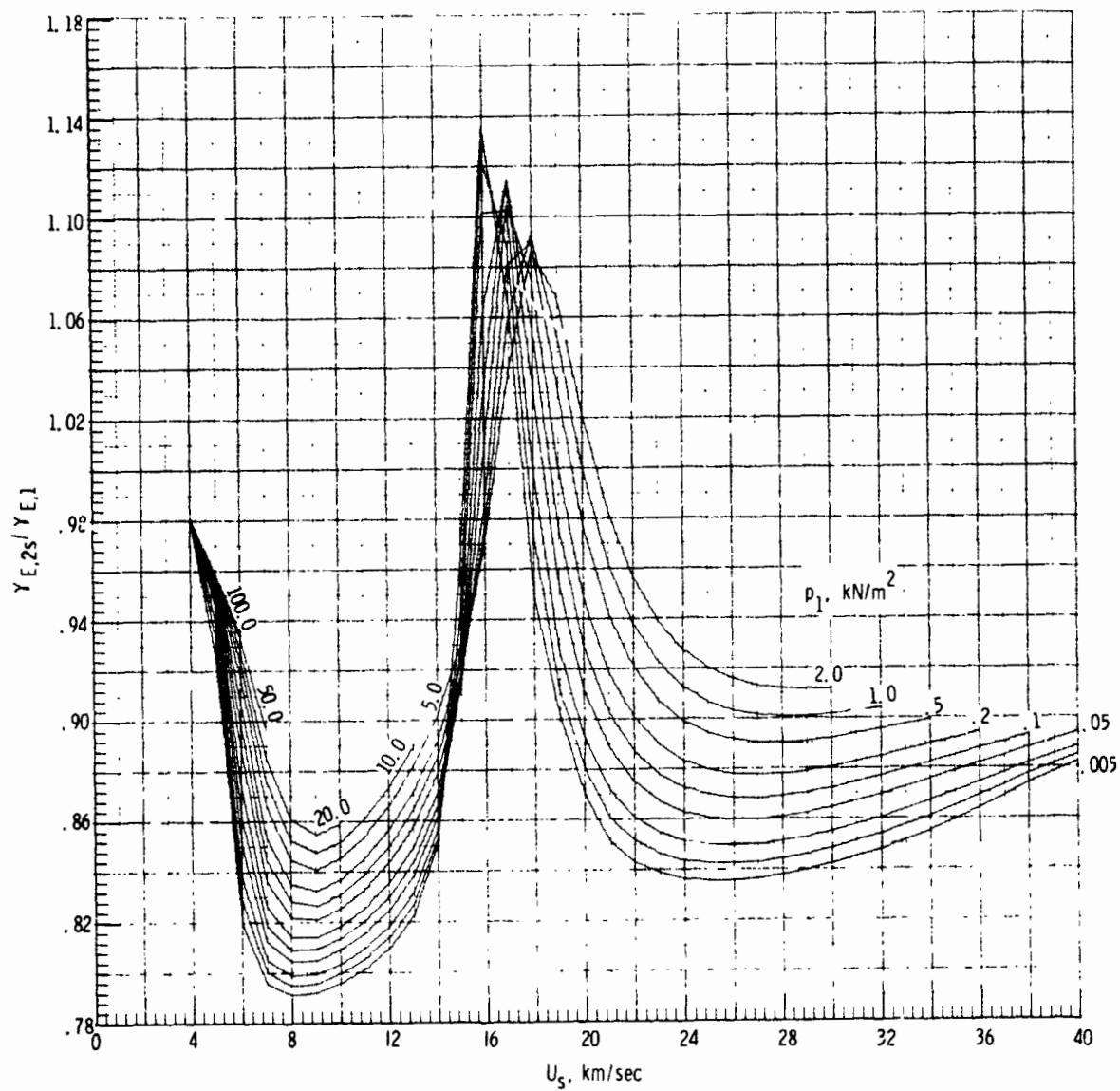
(f) Entropy s_{2s}/s_1 .

Figure 6. - Continued.



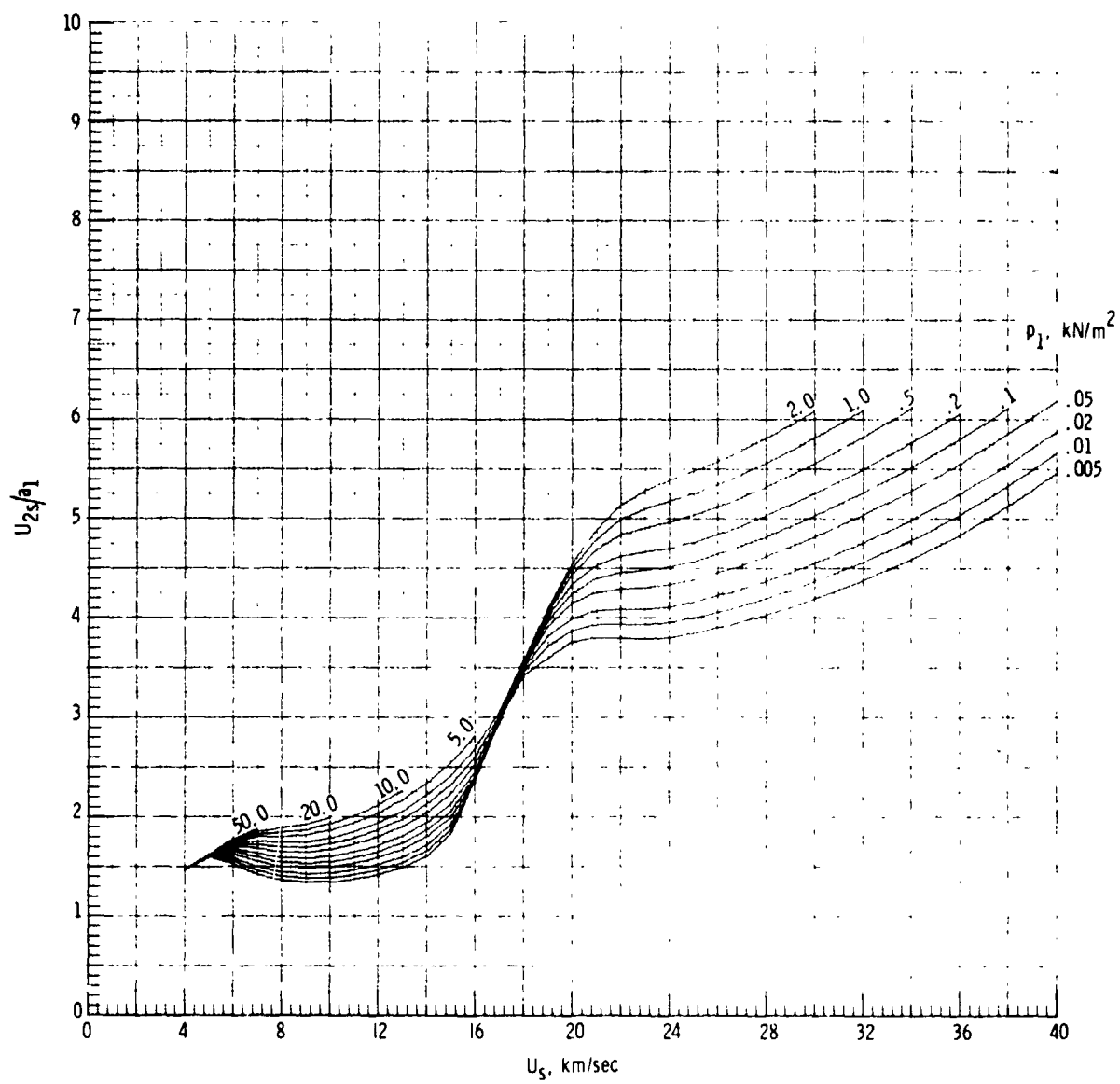
(g) Molecular-weight ratio Z_{2s}^*/Z_1^* .

Figure 6. - Continued.



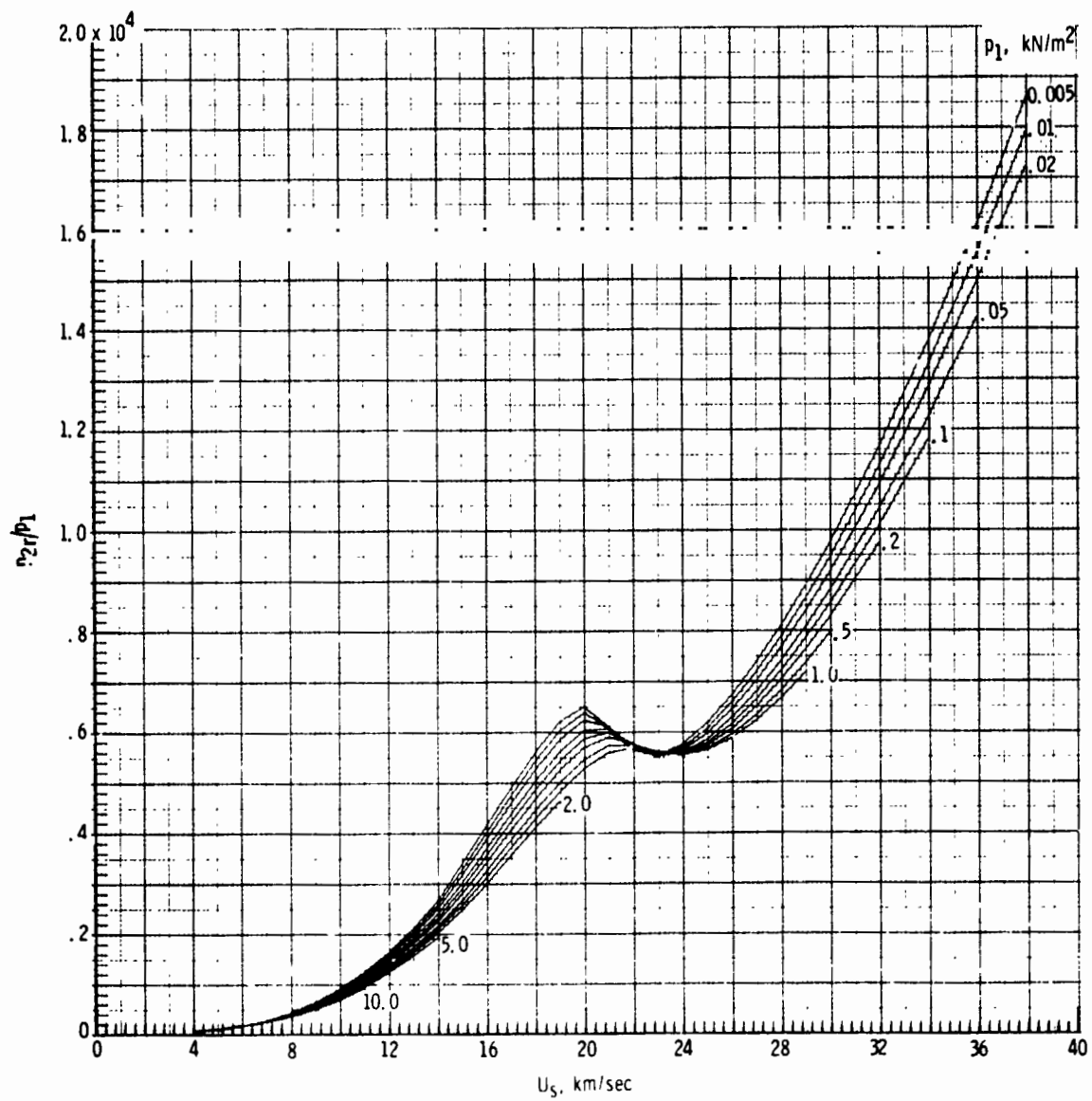
(n) Isentropic exponent $\gamma_{E,2s}/\gamma_{E,1}$

Figure 6. - Continued.



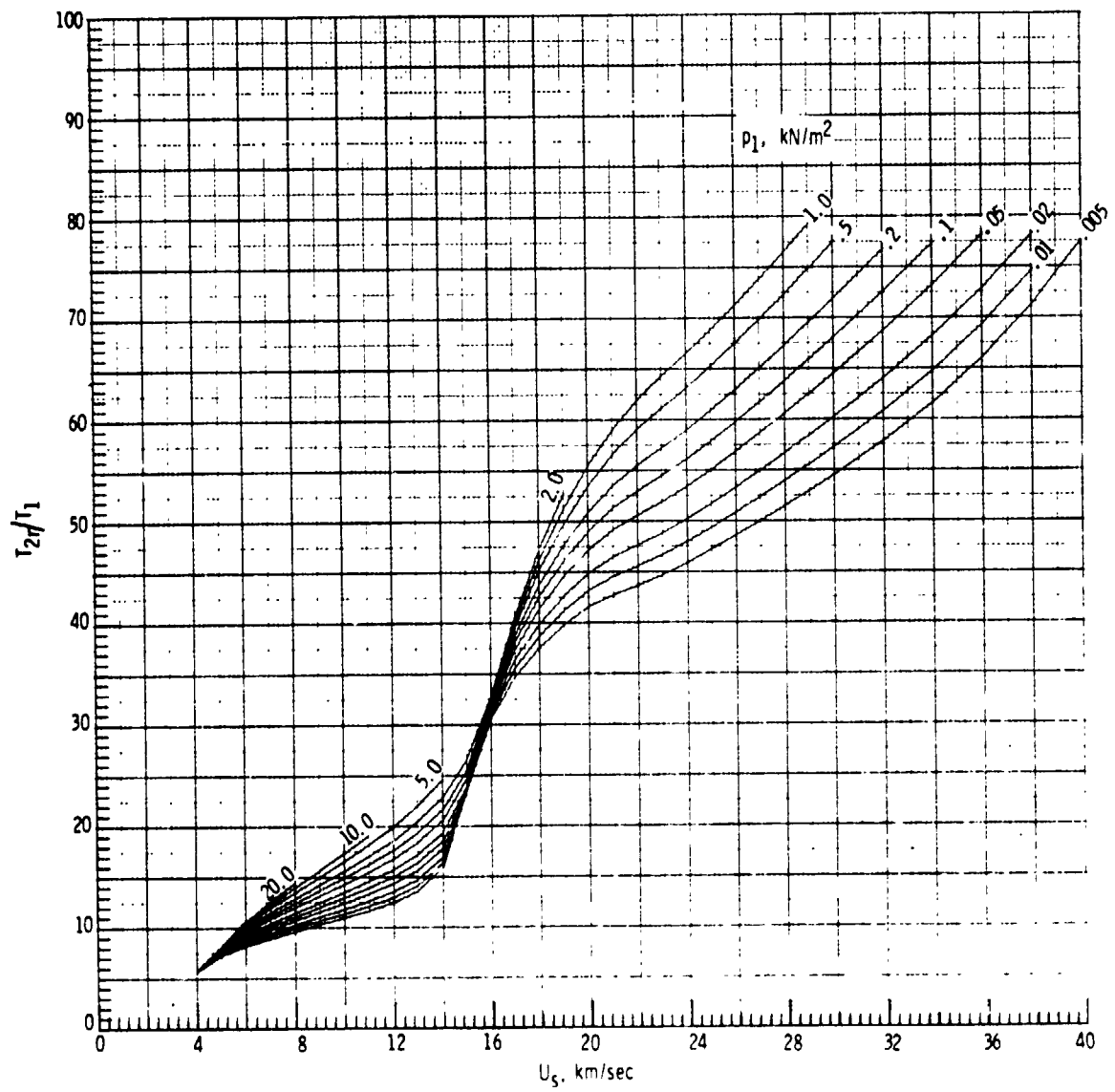
(i) Flow velocity U_{2s}/a_1 .

Figure 6.- Concluded.



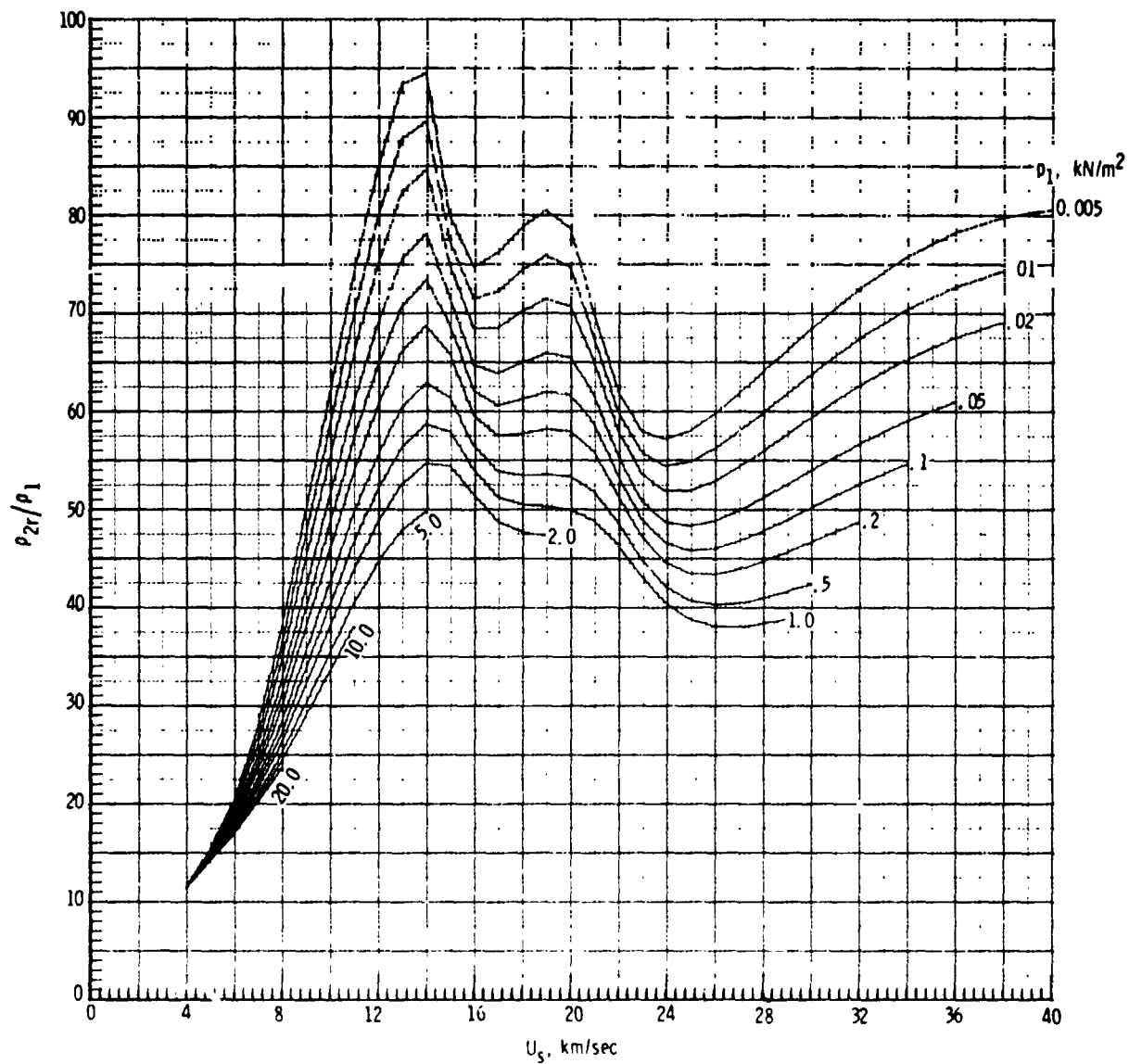
(a) Pressure p_{2r}/p_1 .

Figure 7.- Thermodynamic properties behind a reflected normal shock and reflected shock velocity for a 0.20He-0.80H₂ mixture.



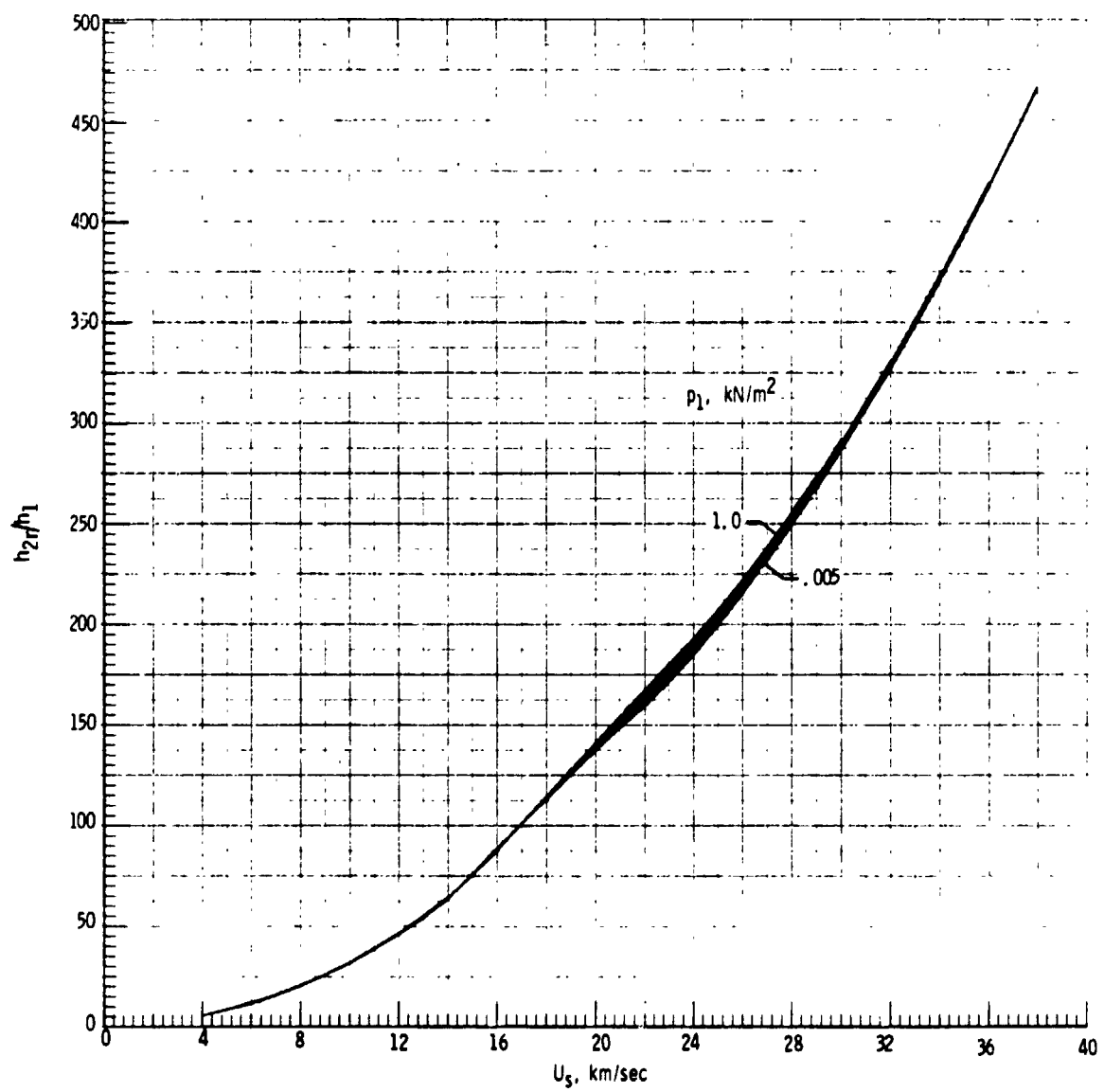
(b) Temperature T_{2r}/T_1 .

Figure 7.- Continued.



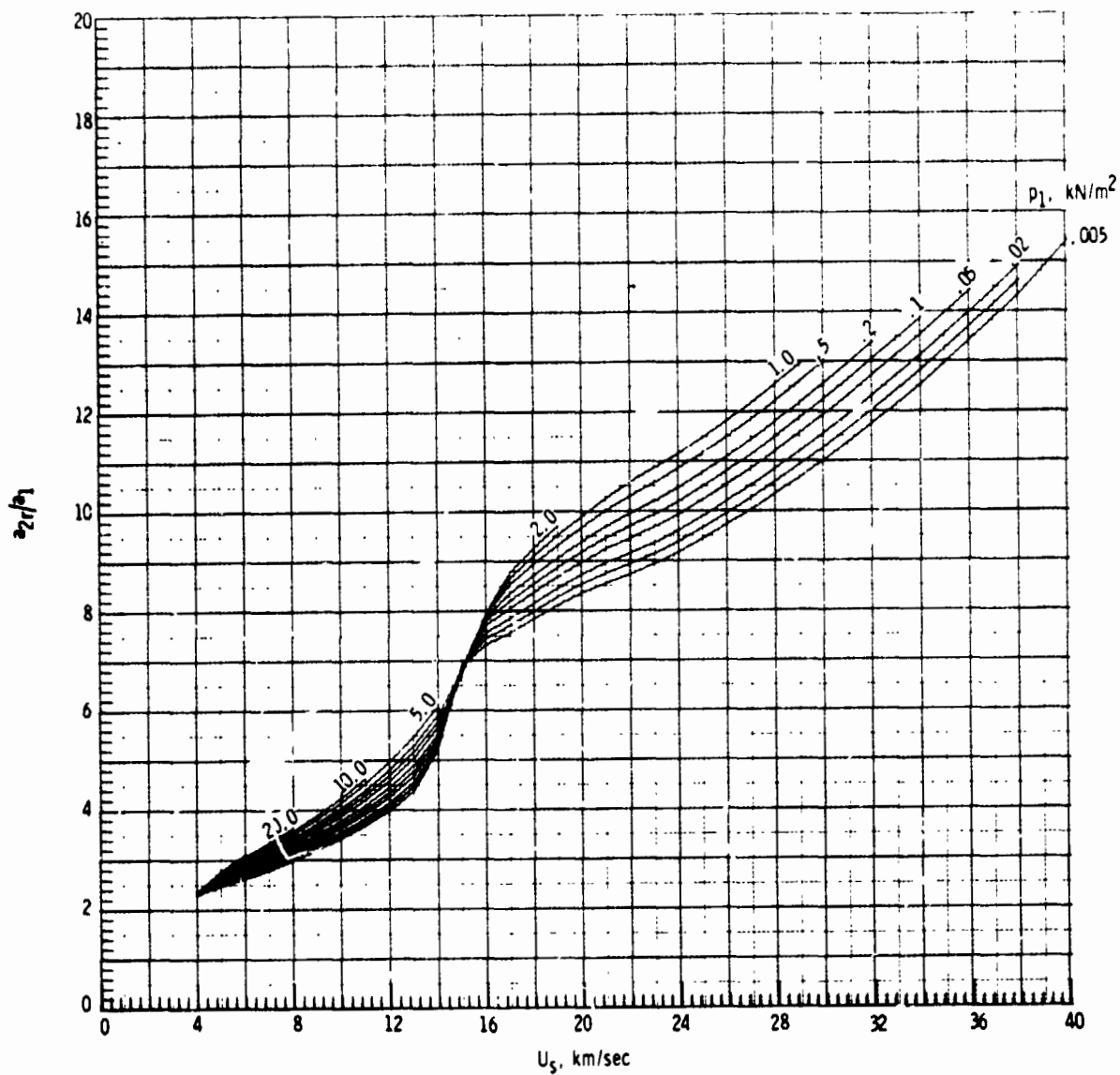
(c) Density ρ_{2r}/ρ_1 .

Figure 7. - Continued.



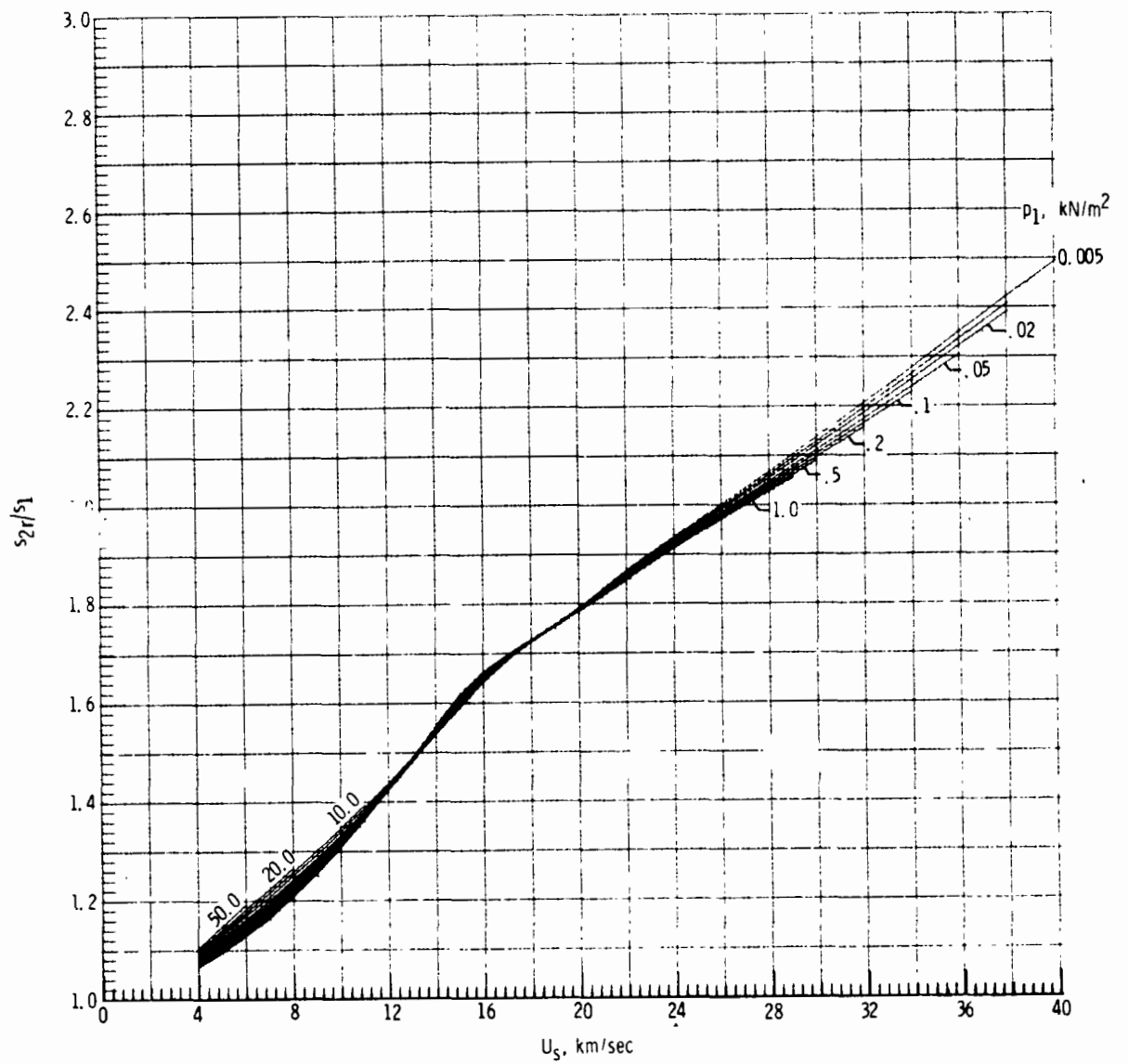
(d) Enthalpy h_{2r}/h_1 .

Figure 7.- Continued.



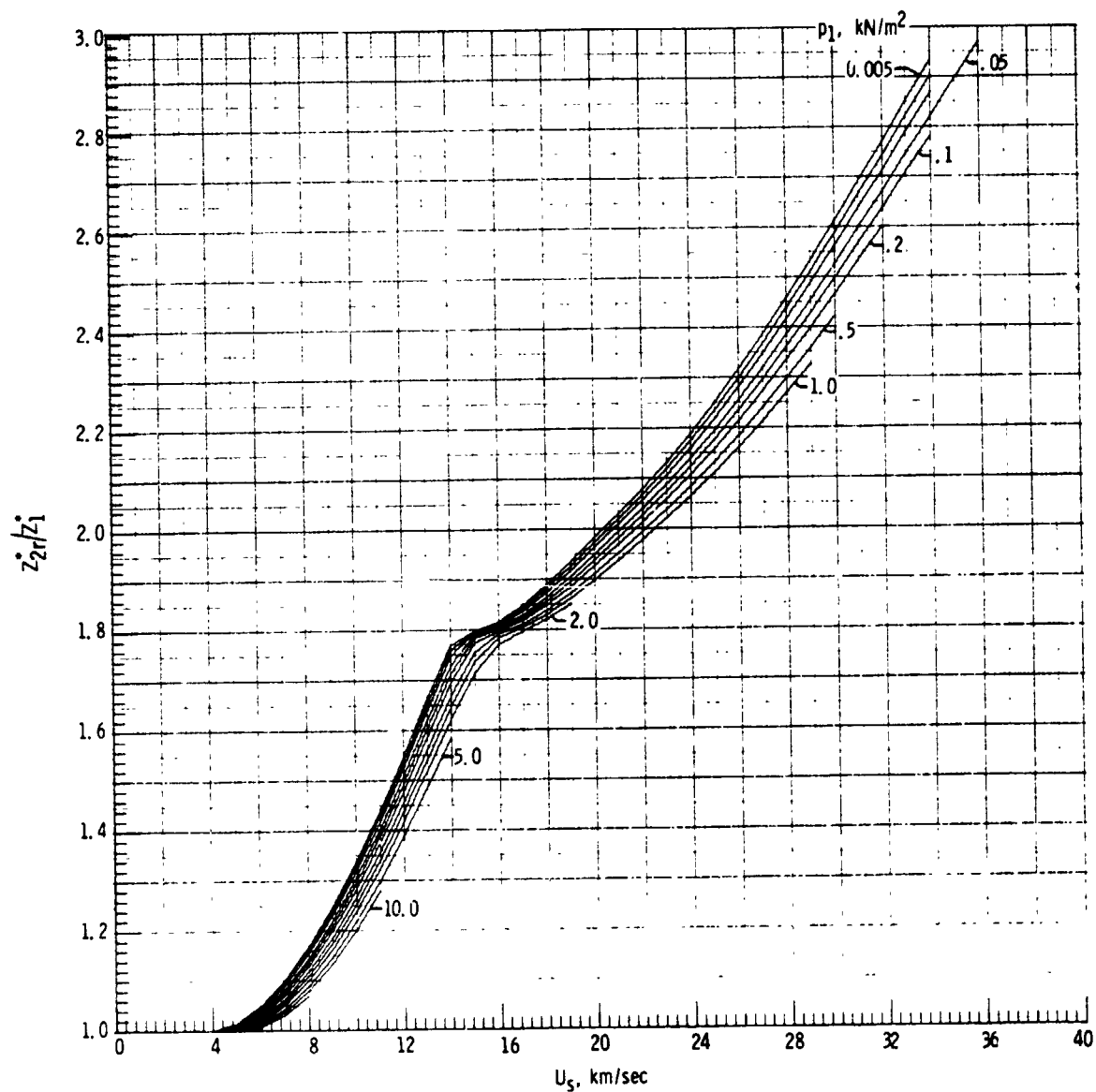
(e) Speed of sound a_2/a_1 .

Figure 7.- Continued.



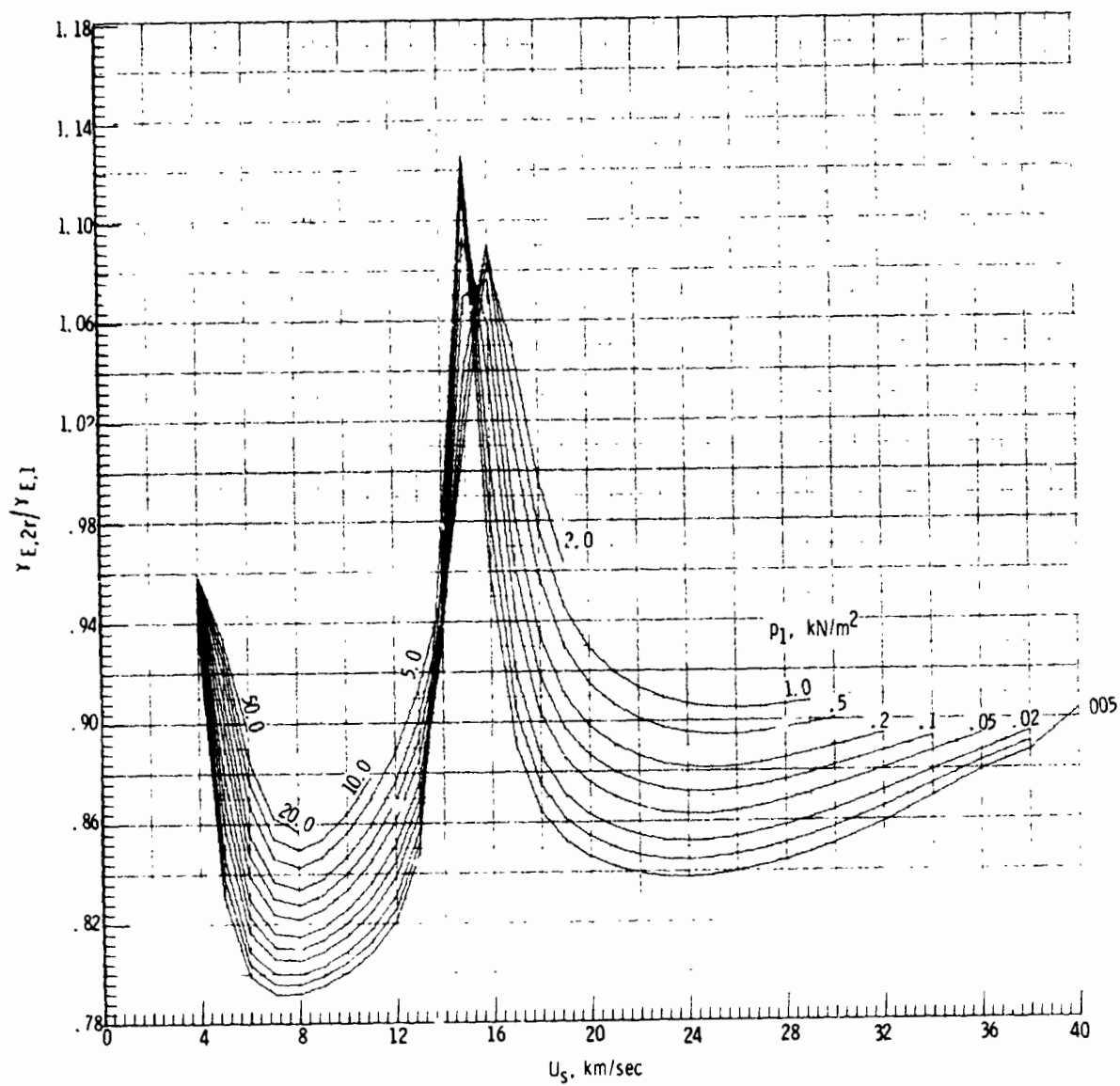
(f) Entropy s_{2r}/s_1 .

Figure 7.- Continued.



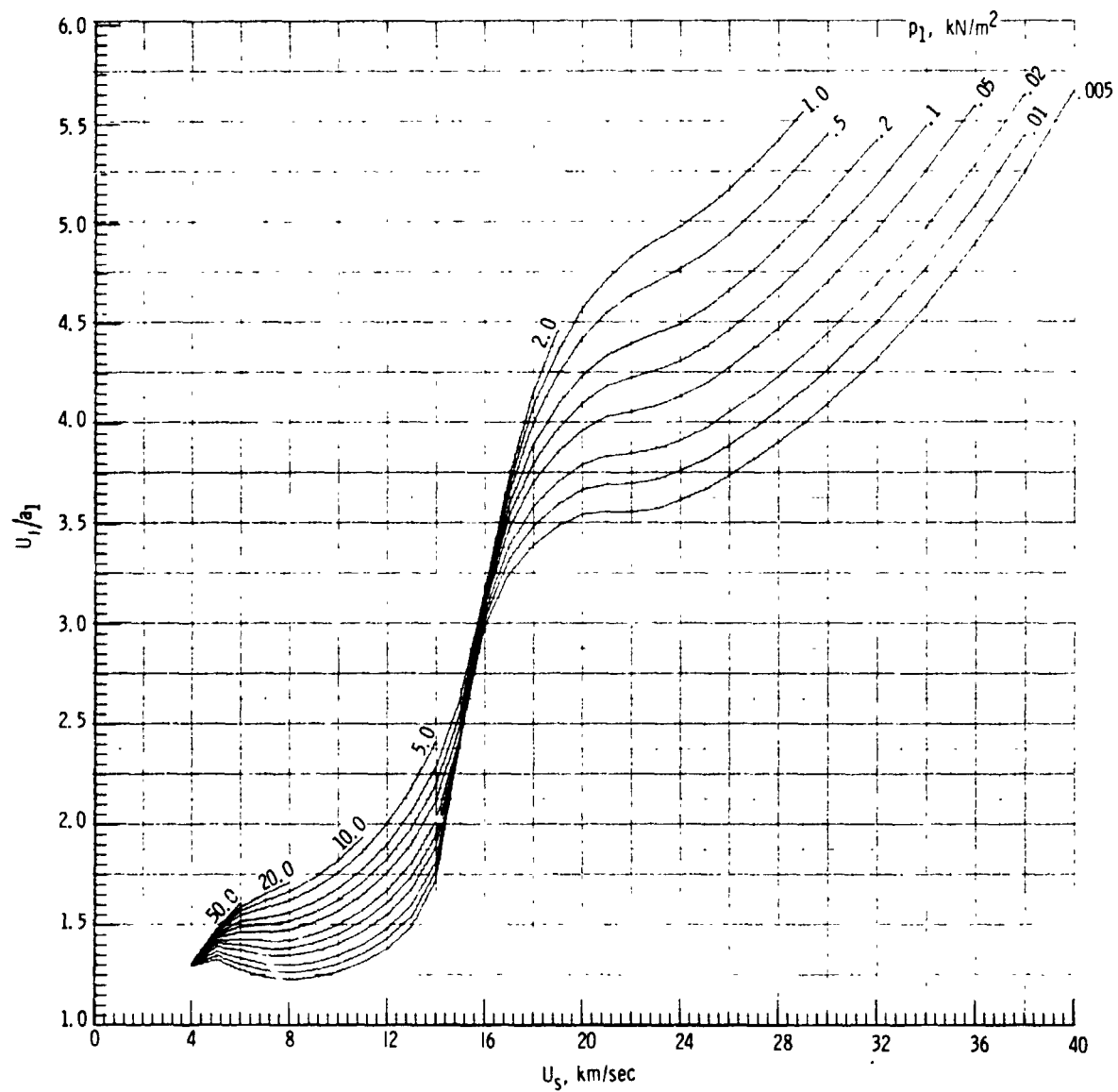
(g) Molecular-weight ratio Z_{2r}^*/Z_1^* .

Figure 7. - Continued.



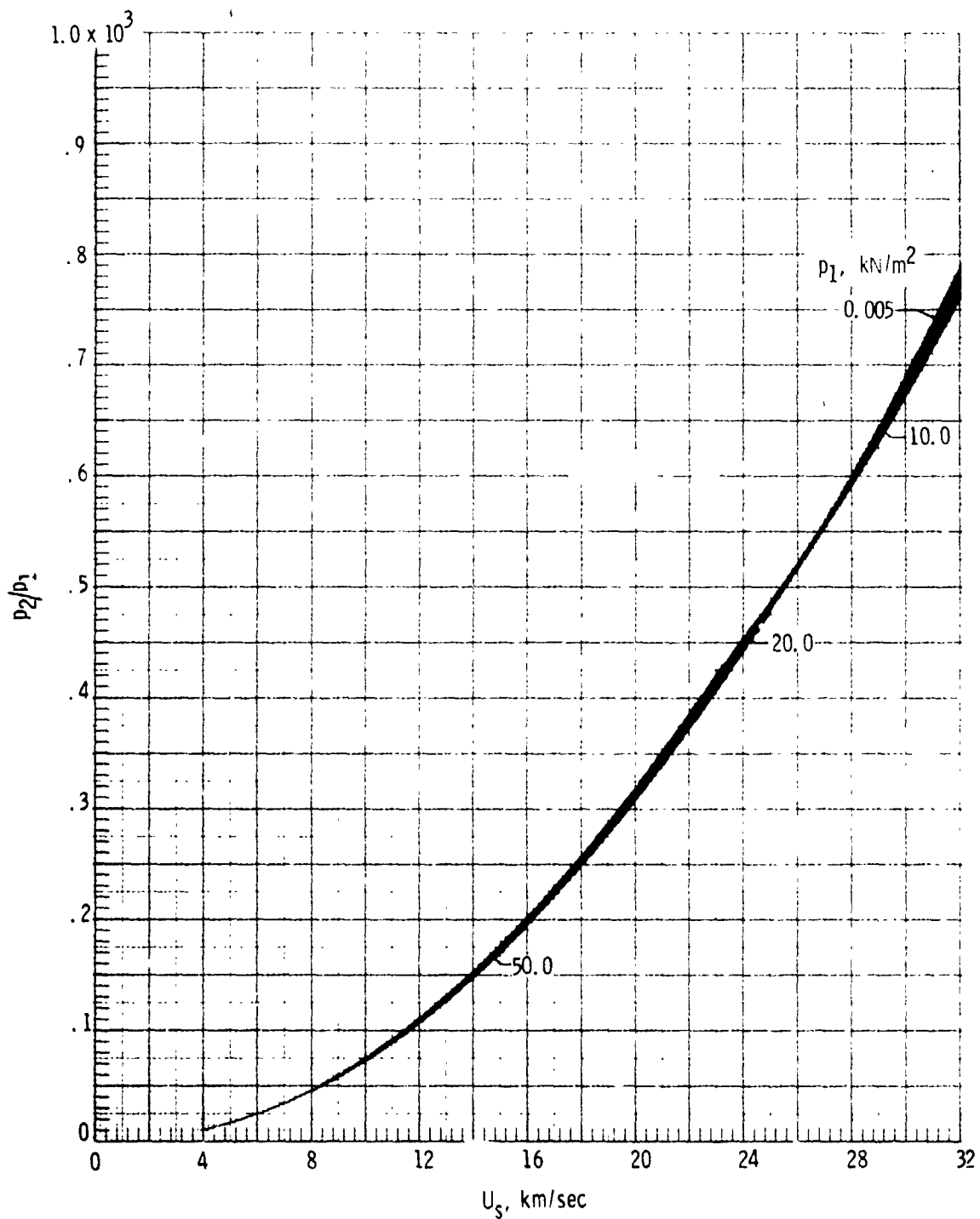
(h) Isentropic exponent $\gamma_{E,2r}/\gamma_{E,1}$

Figure 7.- Continued.



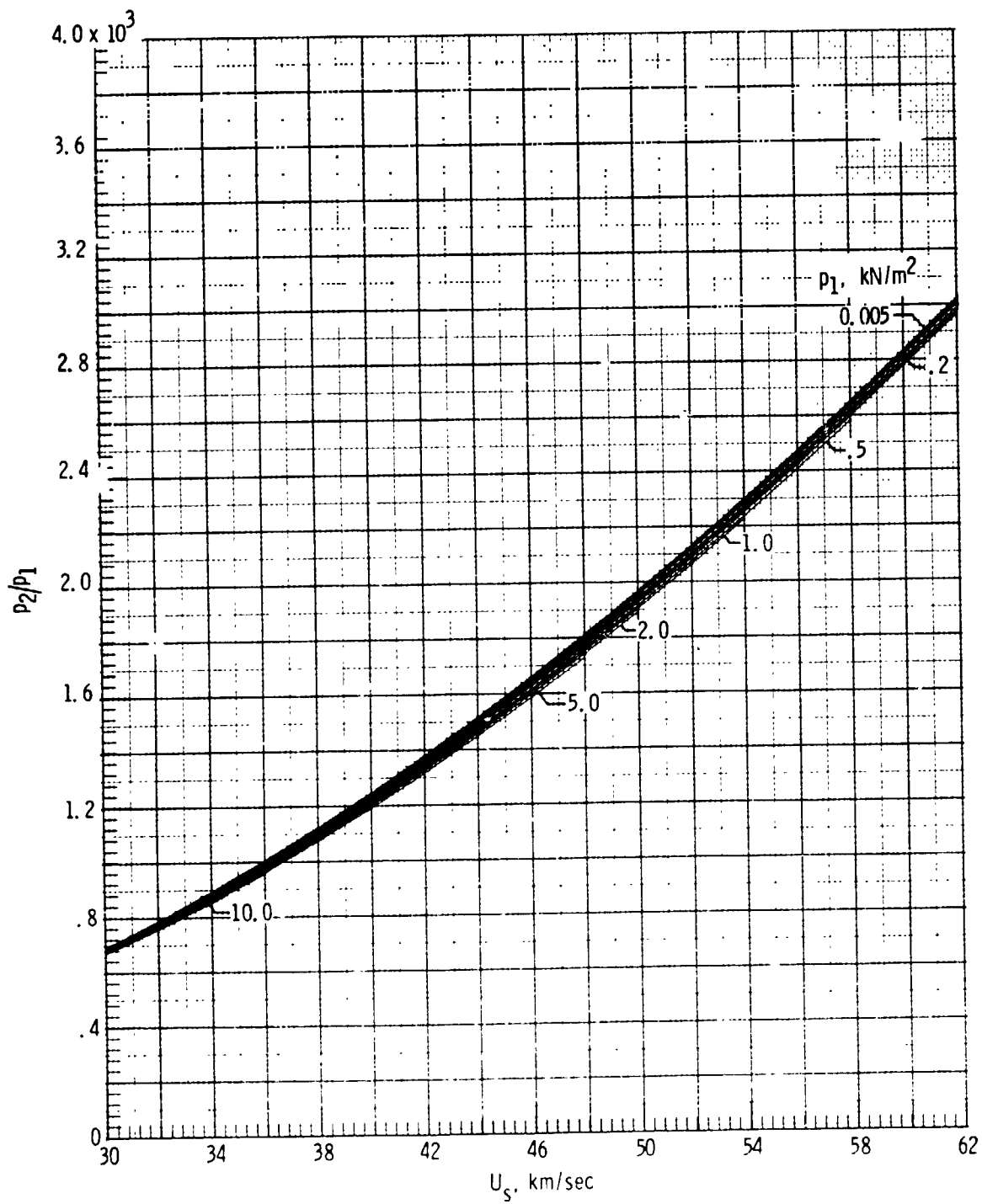
(i) Reflected shock velocity U_r/a_1 .

Figure 7.- Concluded.



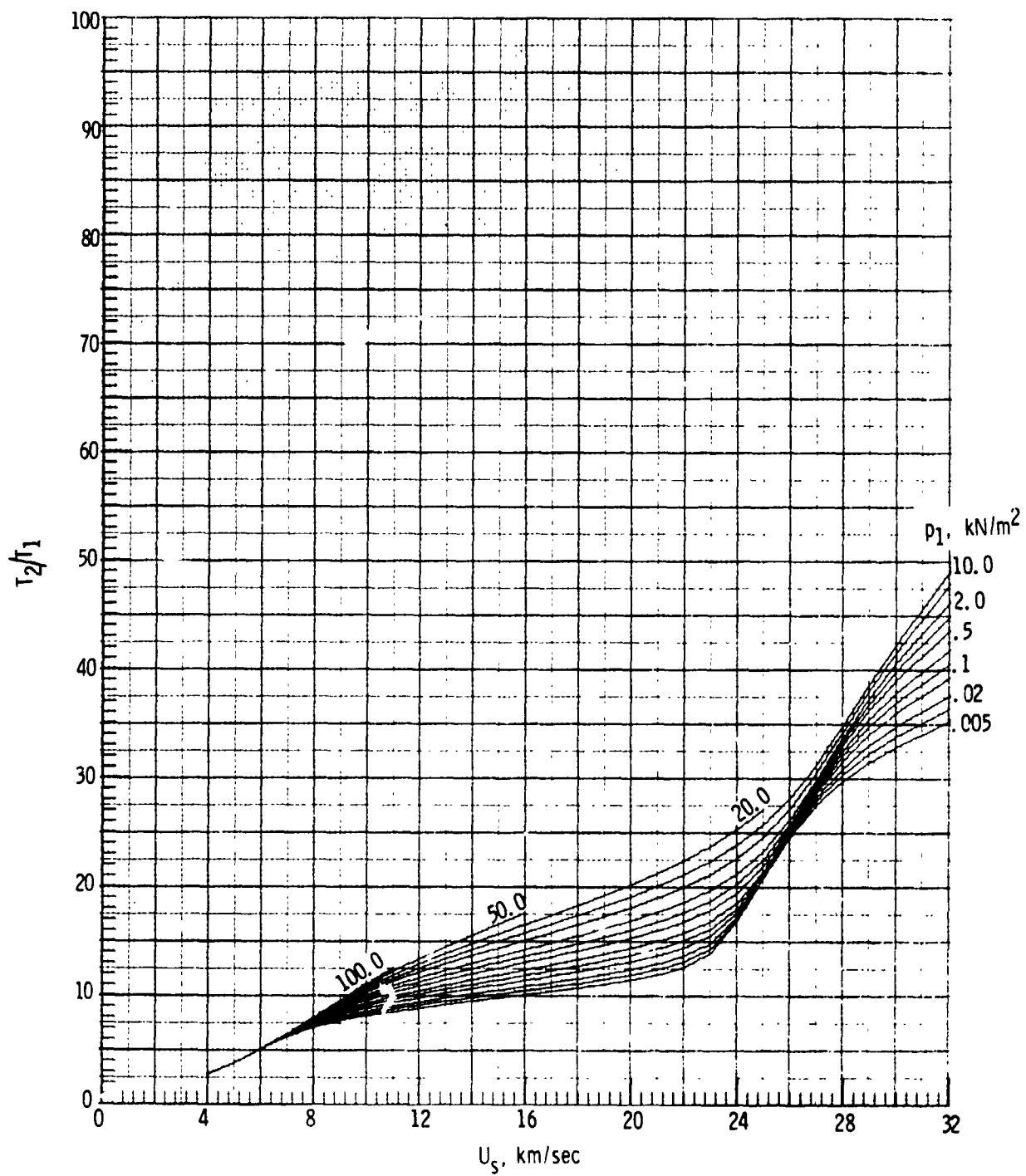
(a) Pressure p_2/p_1 .

Figure 8.- Thermodynamic properties and flow velocity behind an incident normal shock into a 0.05He-0.95H₂ mixture.



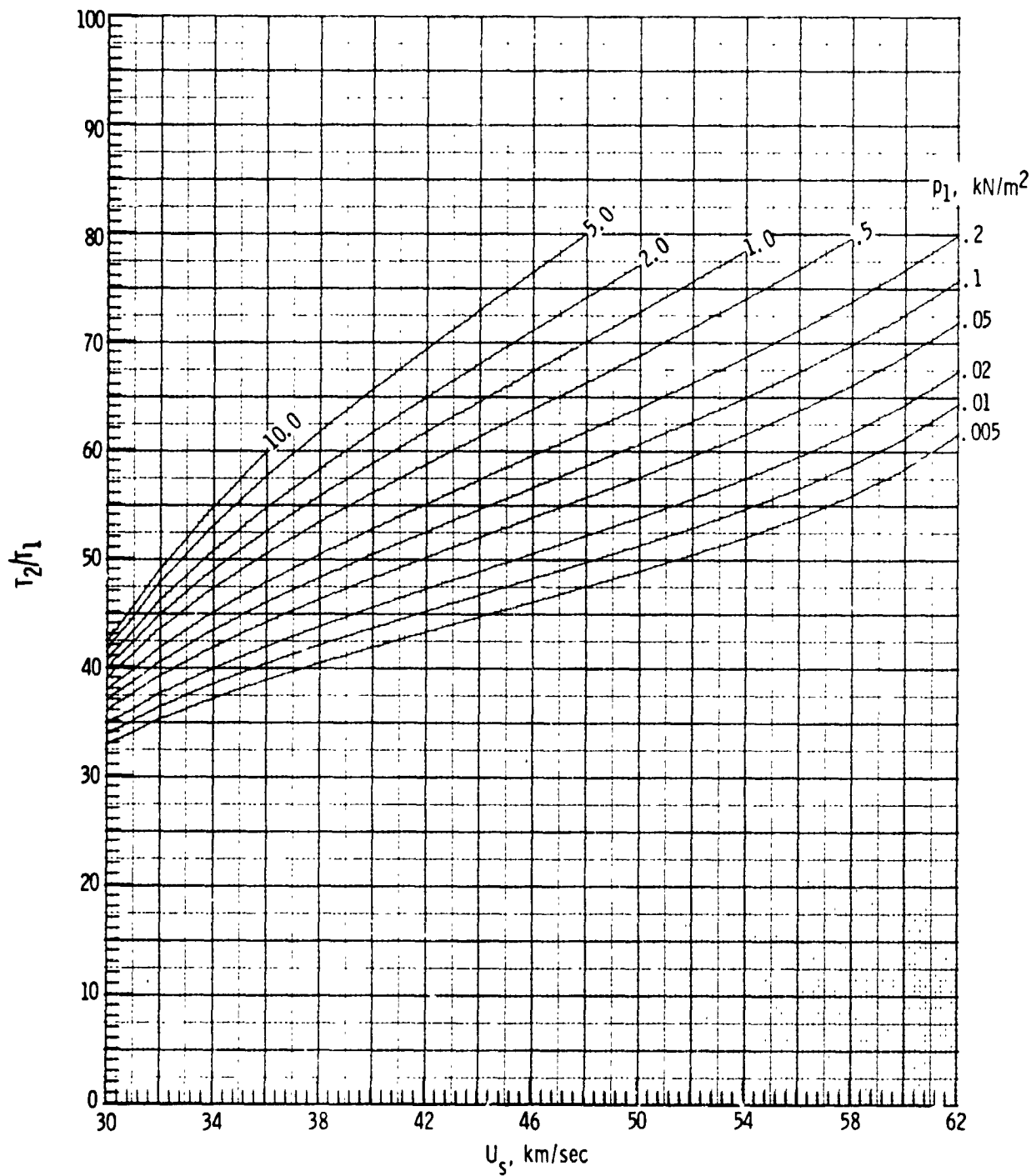
(a) Pressure p_2/p_1 . Concluded.

Figure 8. - Continued.



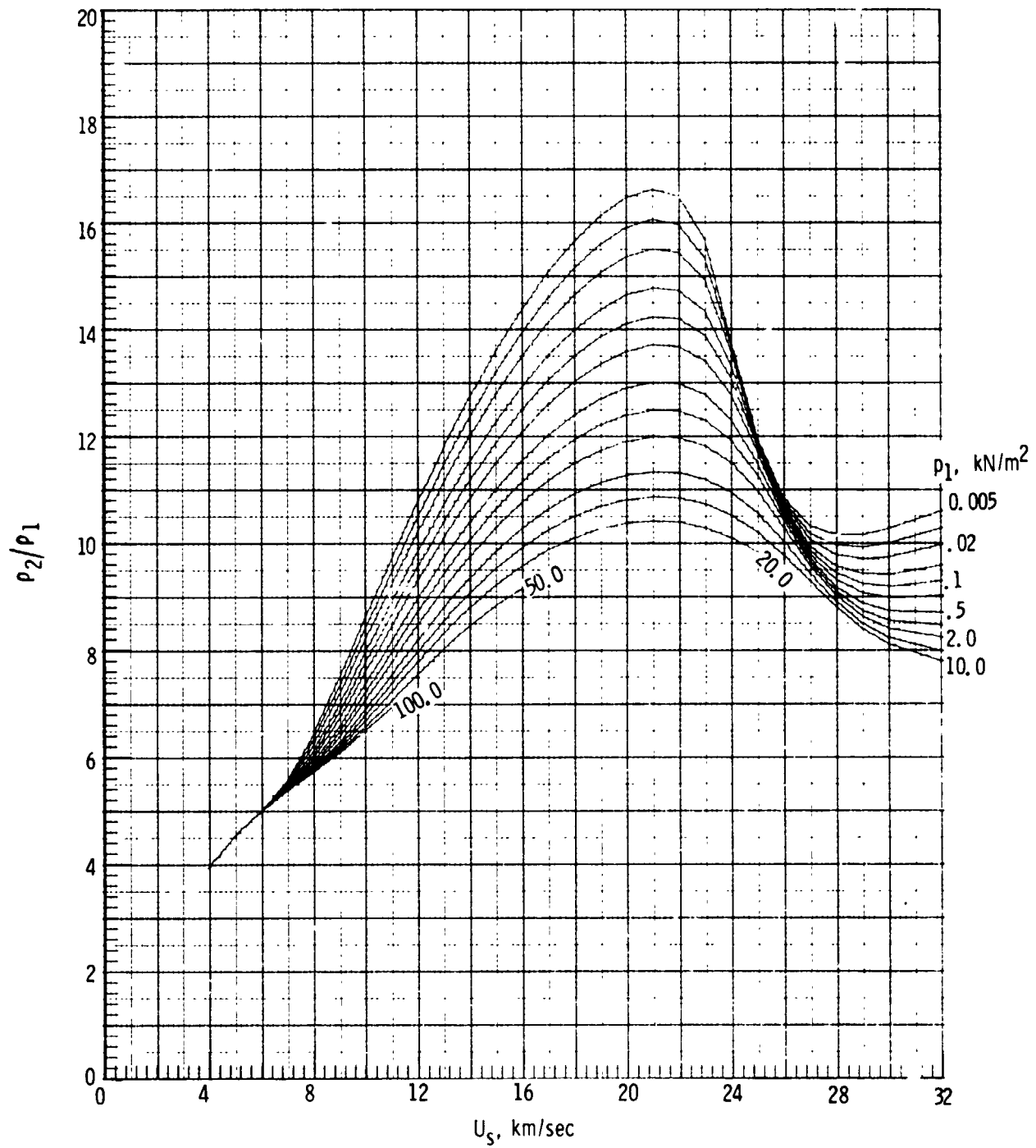
(b) Temperature T_2/T_1 .

Figure 8.- Continued.



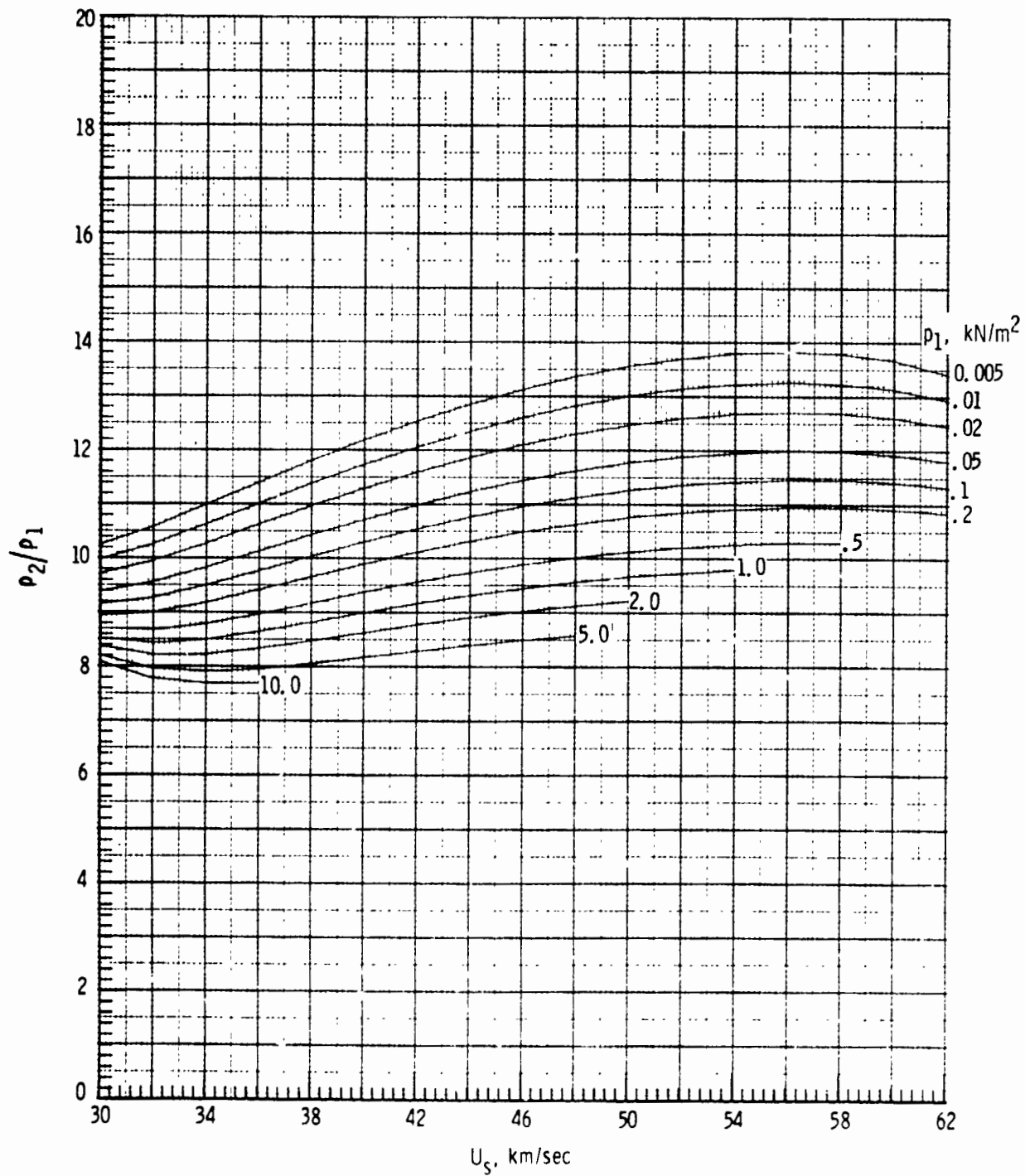
(b) Temperature T_2/T_1 . Concluded.

Figure 8.- Continued.



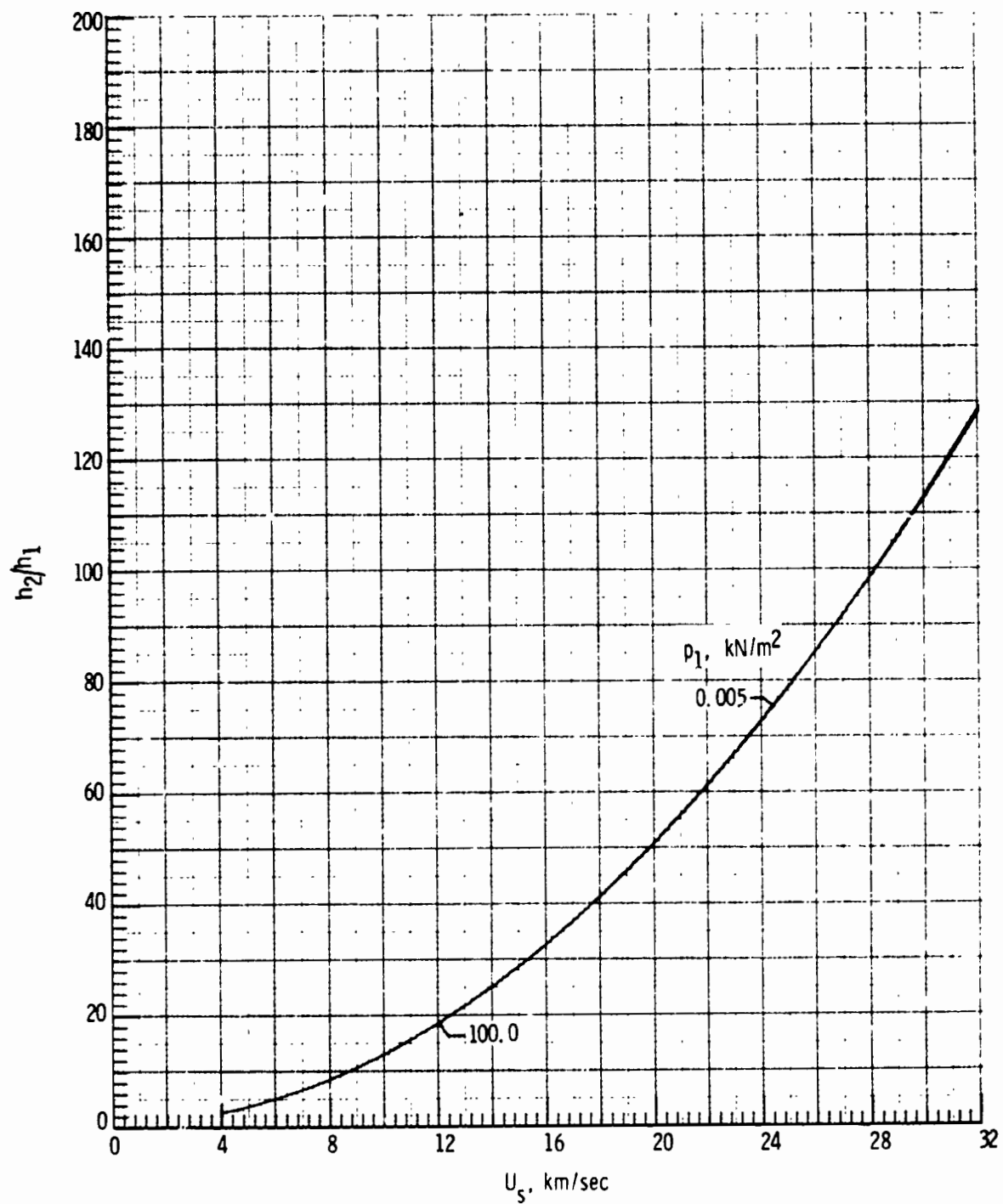
(c) Density ρ_2/ρ_1 .

Figure 8.- Continued.



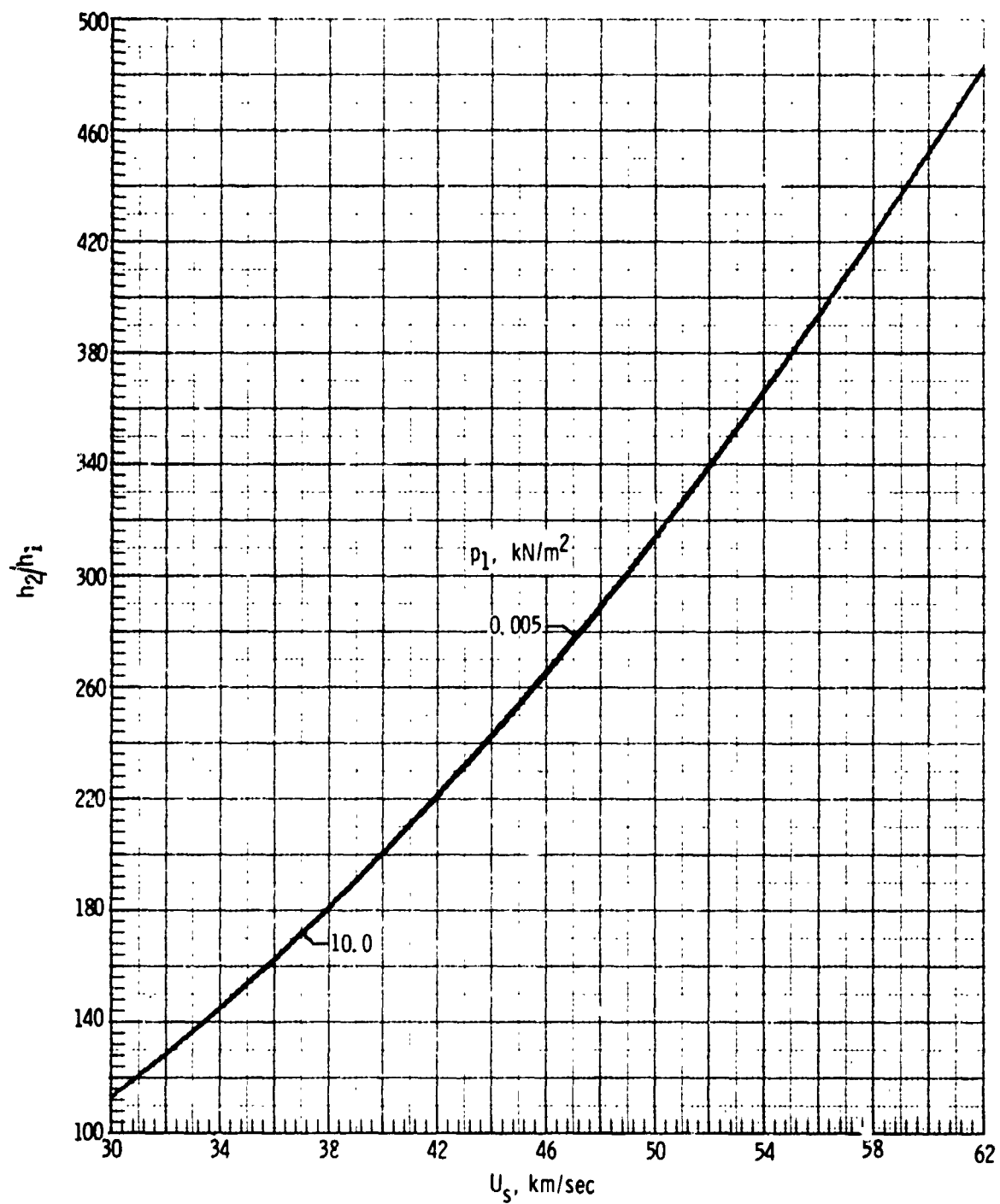
(c) Density ρ_2/ρ_1 . Concluded.

Figure 8.- Continued.



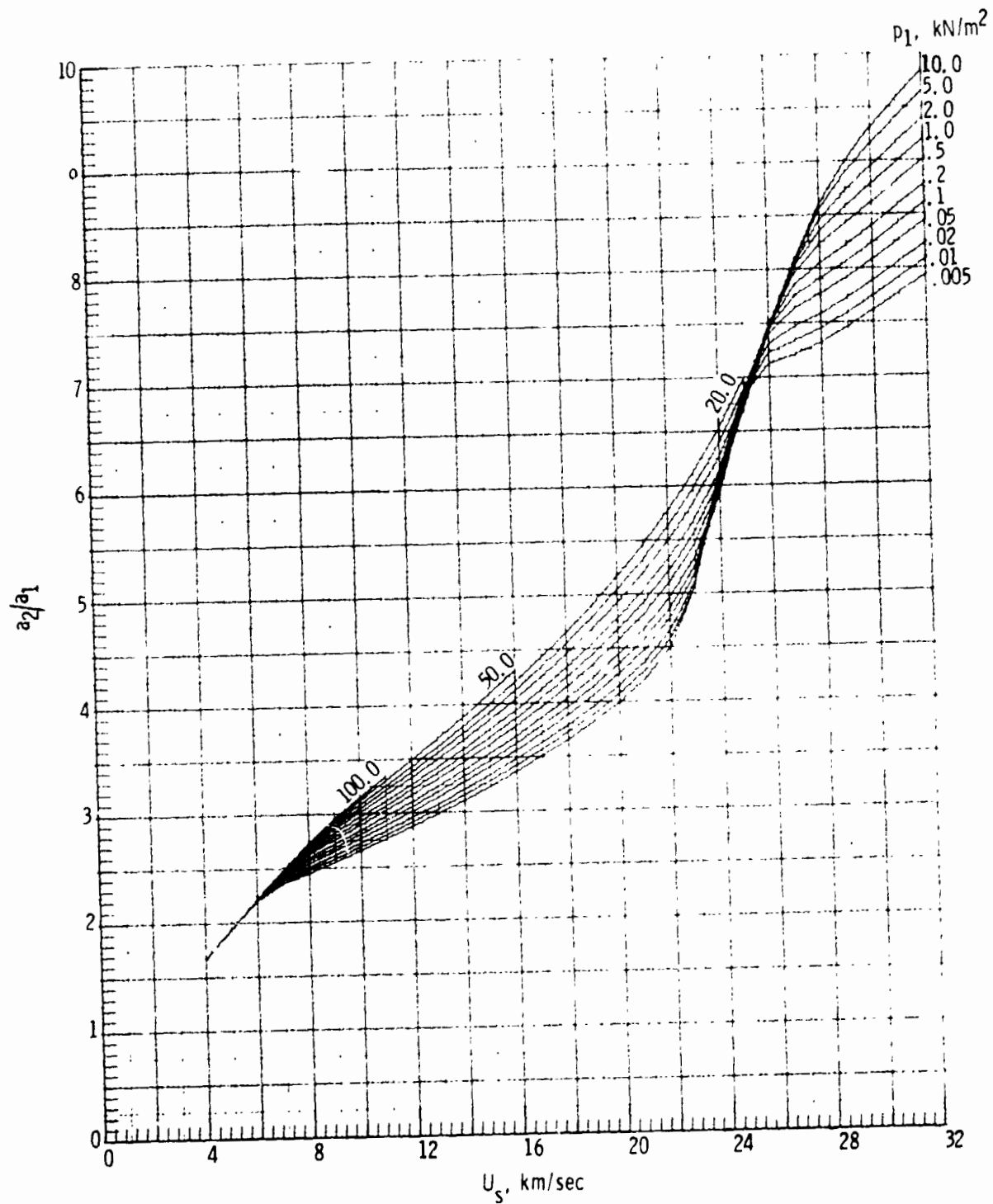
(d) Enthalpy h_2/h_1 .

Figure 8.- Continued.



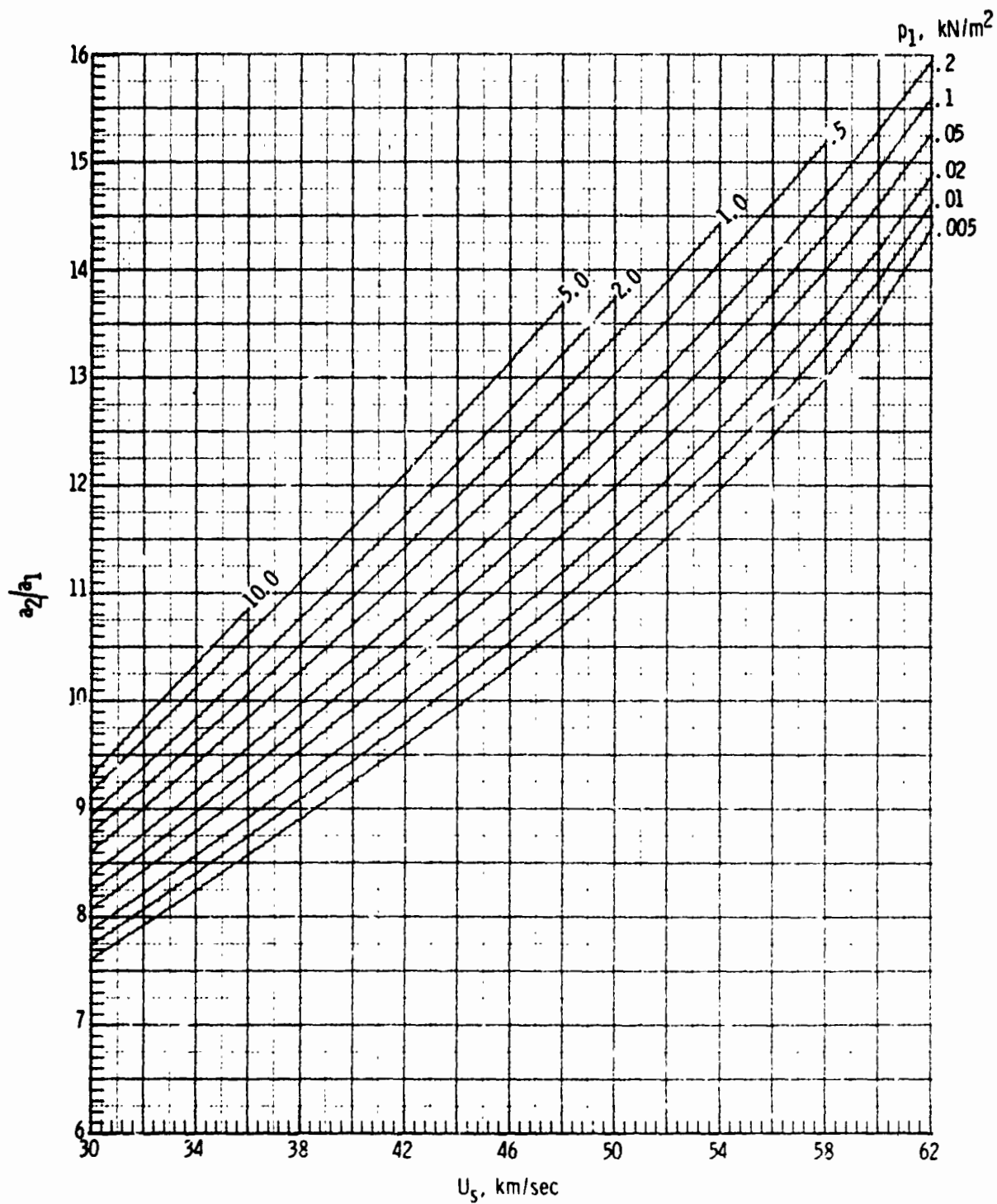
(d) Enthalpy h_2/h_1 . Concluded.

Figure 8. - Continued.



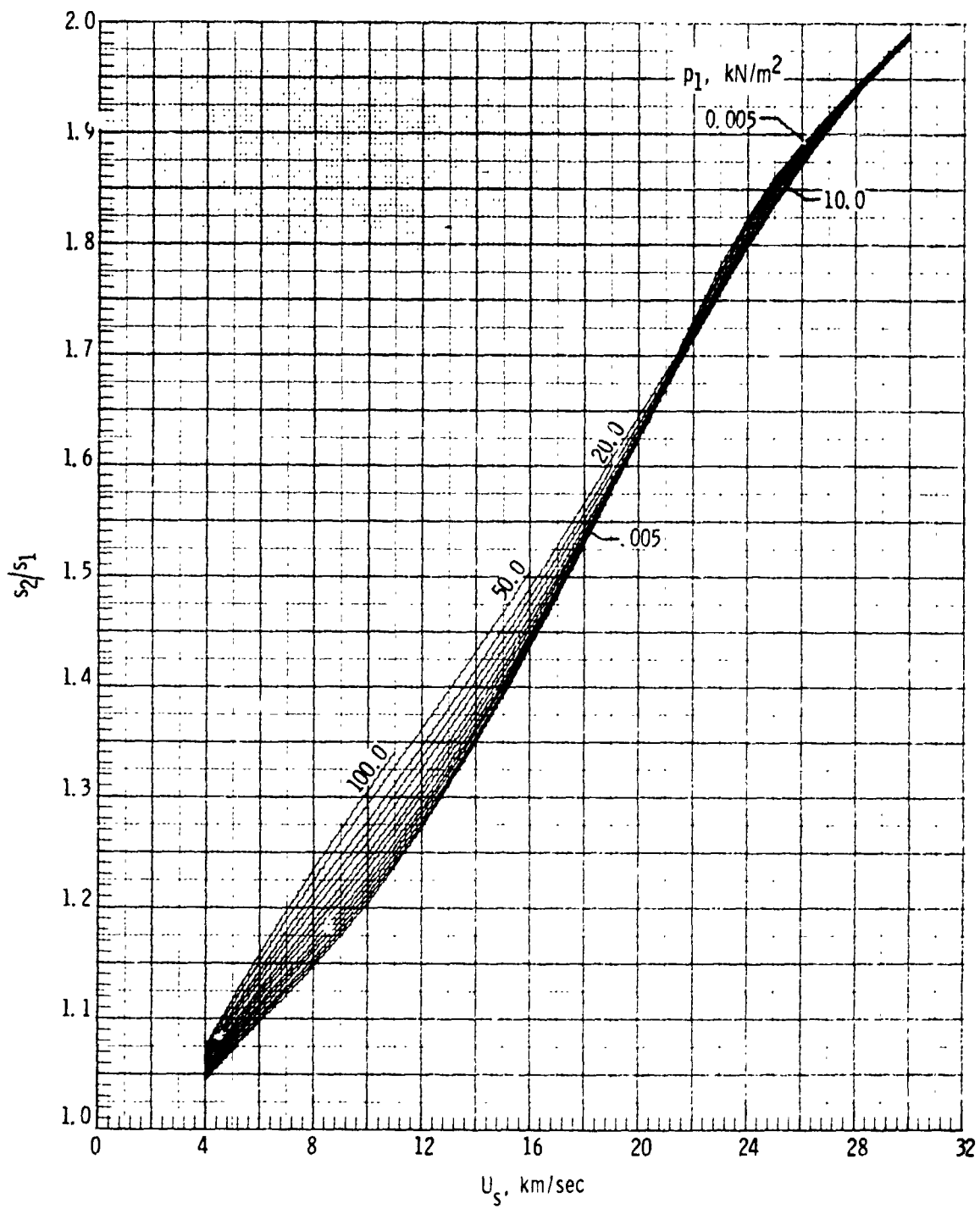
(e) Speed of sound a_2/a_1 .

Figure 8.- Continued.

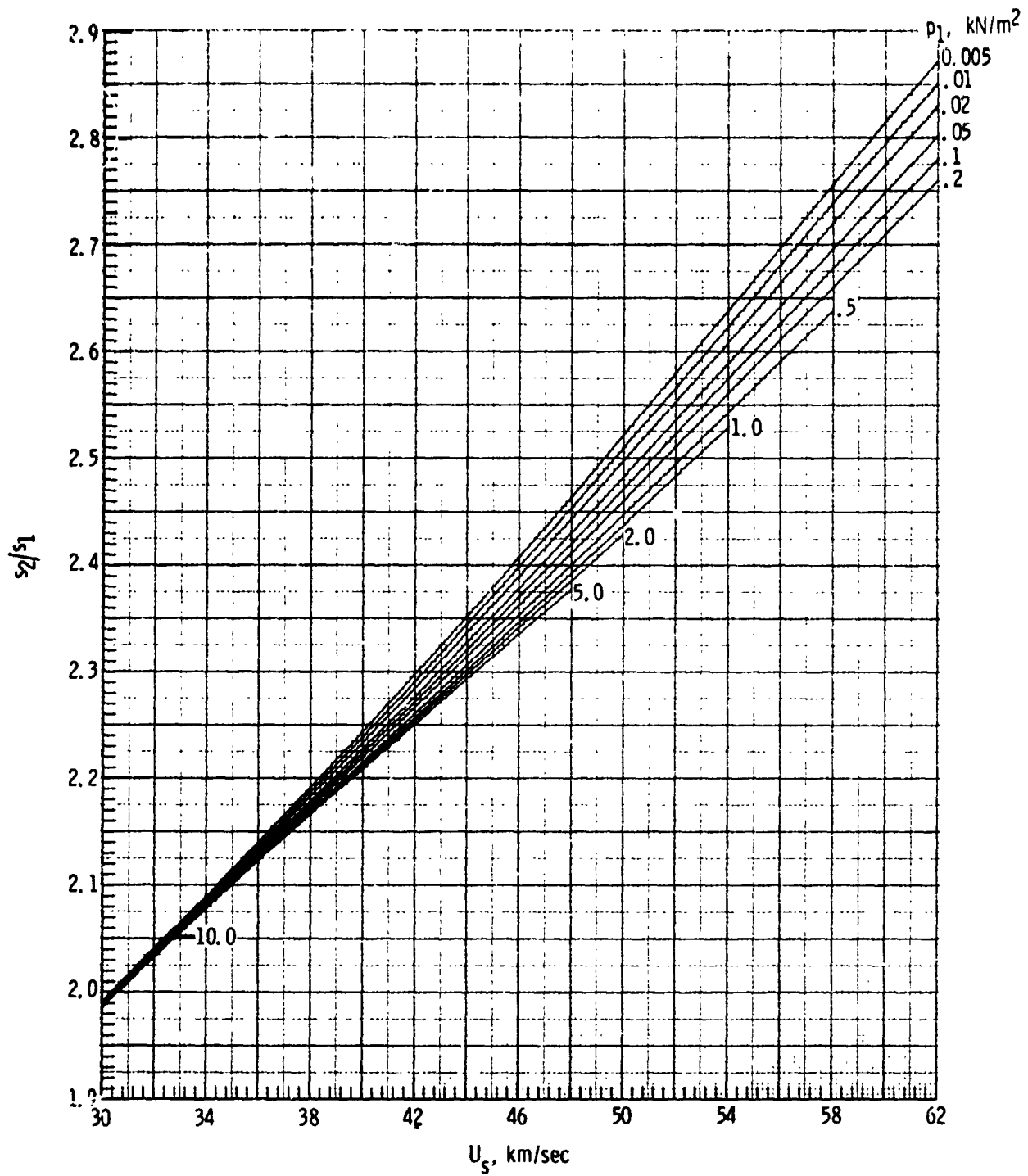


(e) Speed of sound a_2/a_1 . Concluded.

Figure 8.- Continued.

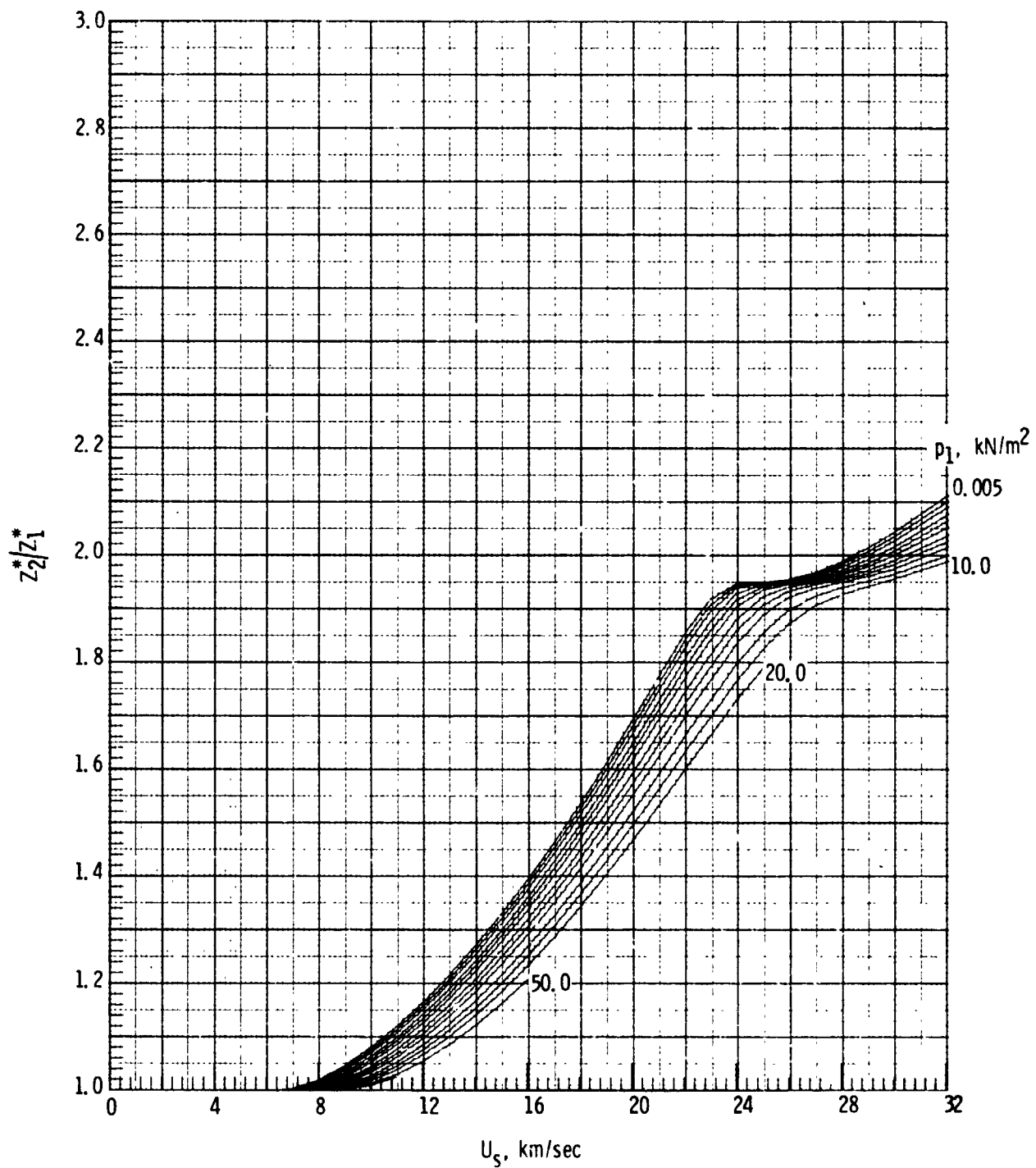


(f) Entropy s_2/s_1 .
Figure 8. - Continued.



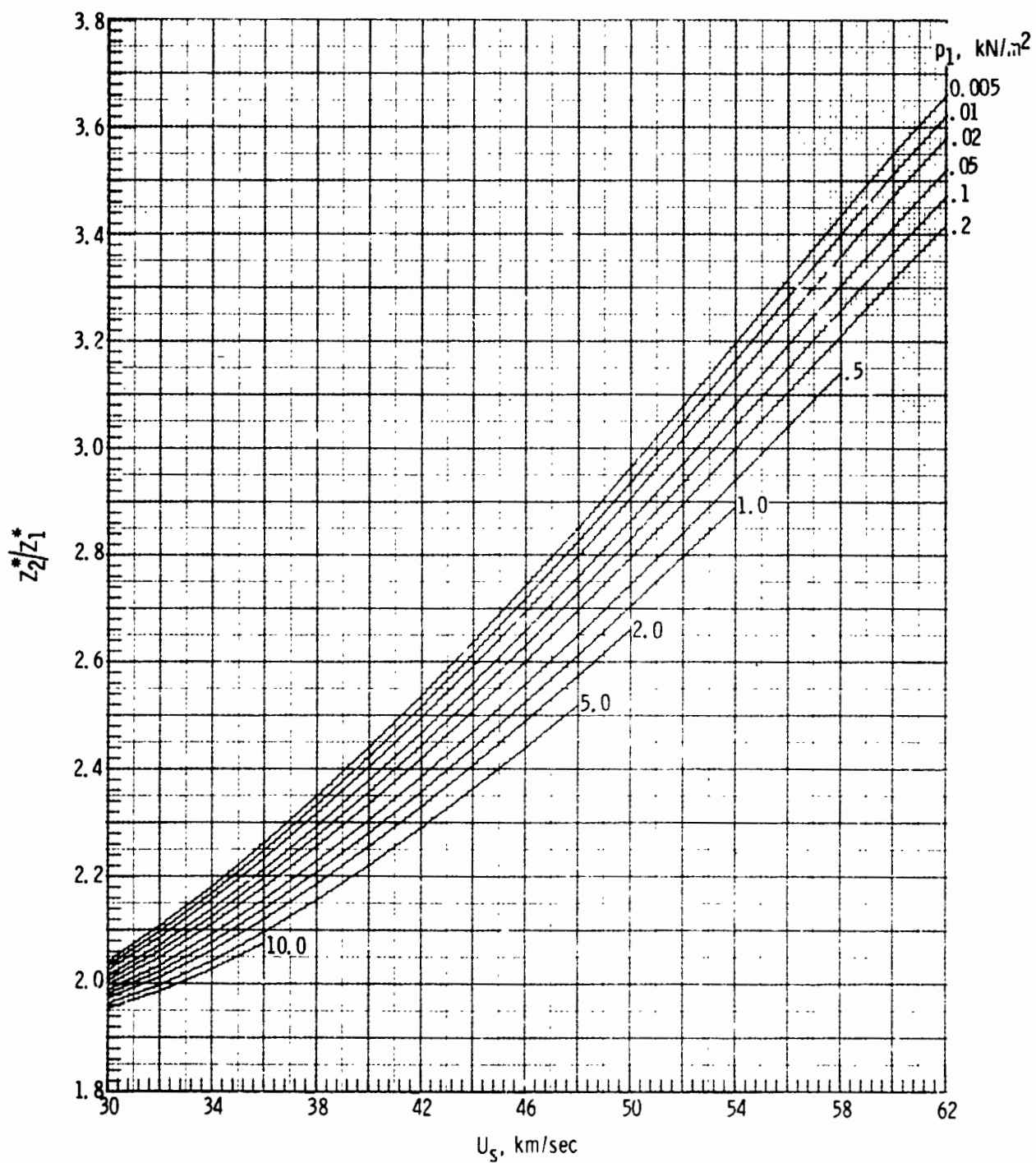
(f) Entropy s_2/s_1 . Concluded.

Figure 8. - Continued.



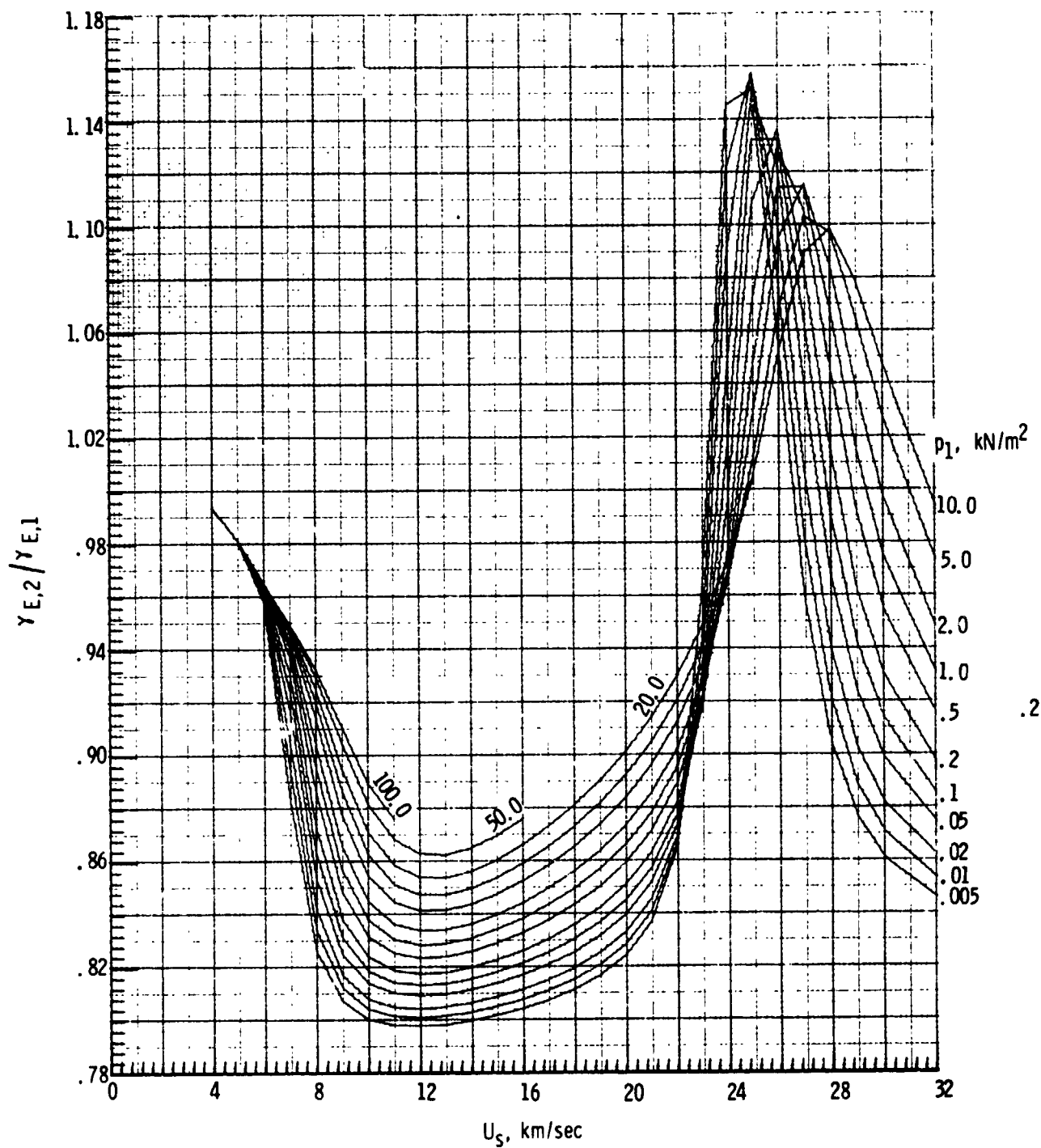
(g) Molecular-weight ratio Z_2^*/Z_1^* .

Figure 8.- Continued.



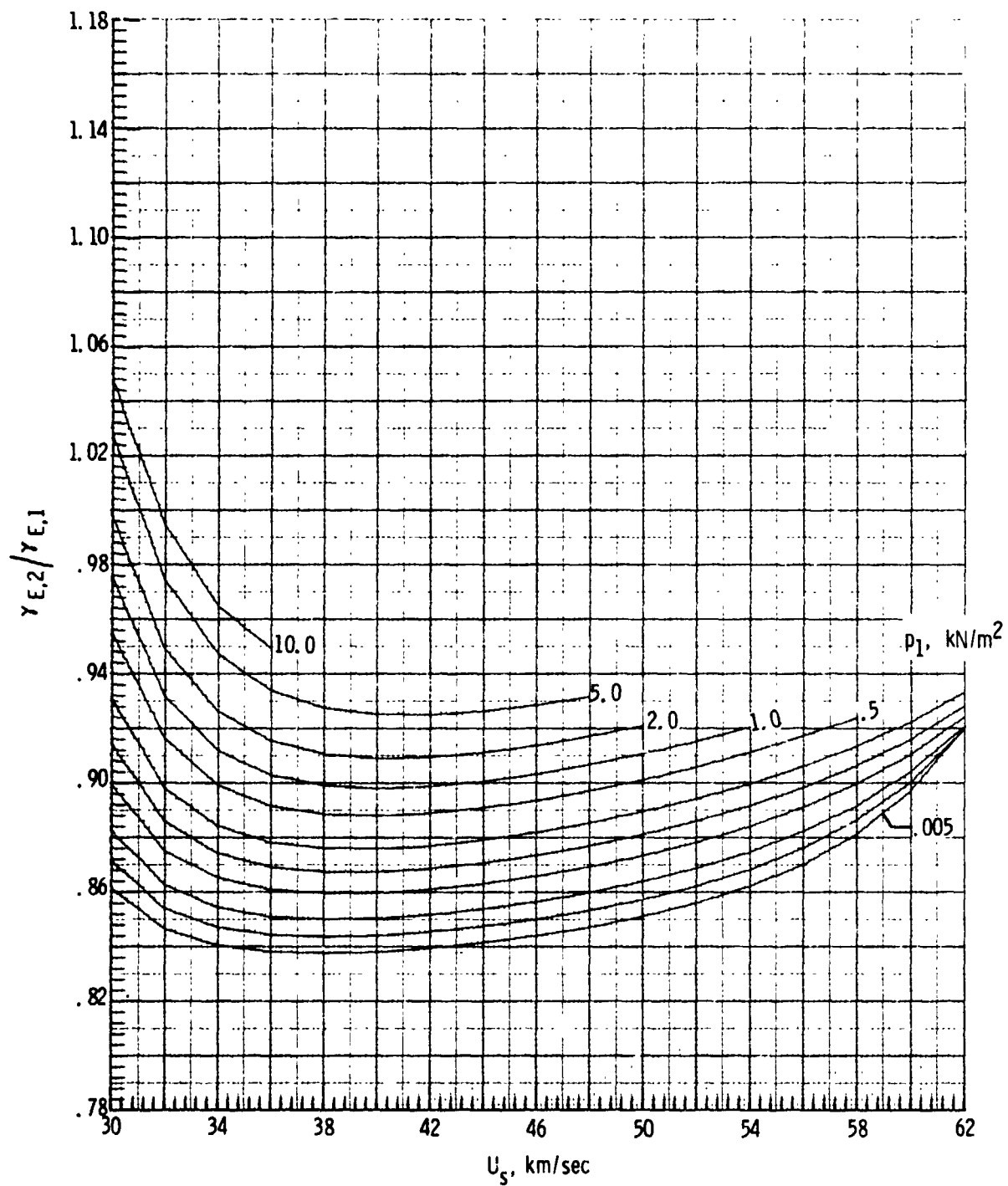
(g) Molecular-weight ratio Z_2^*/Z_1^* . Concluded.

Figure 8.- Continued.



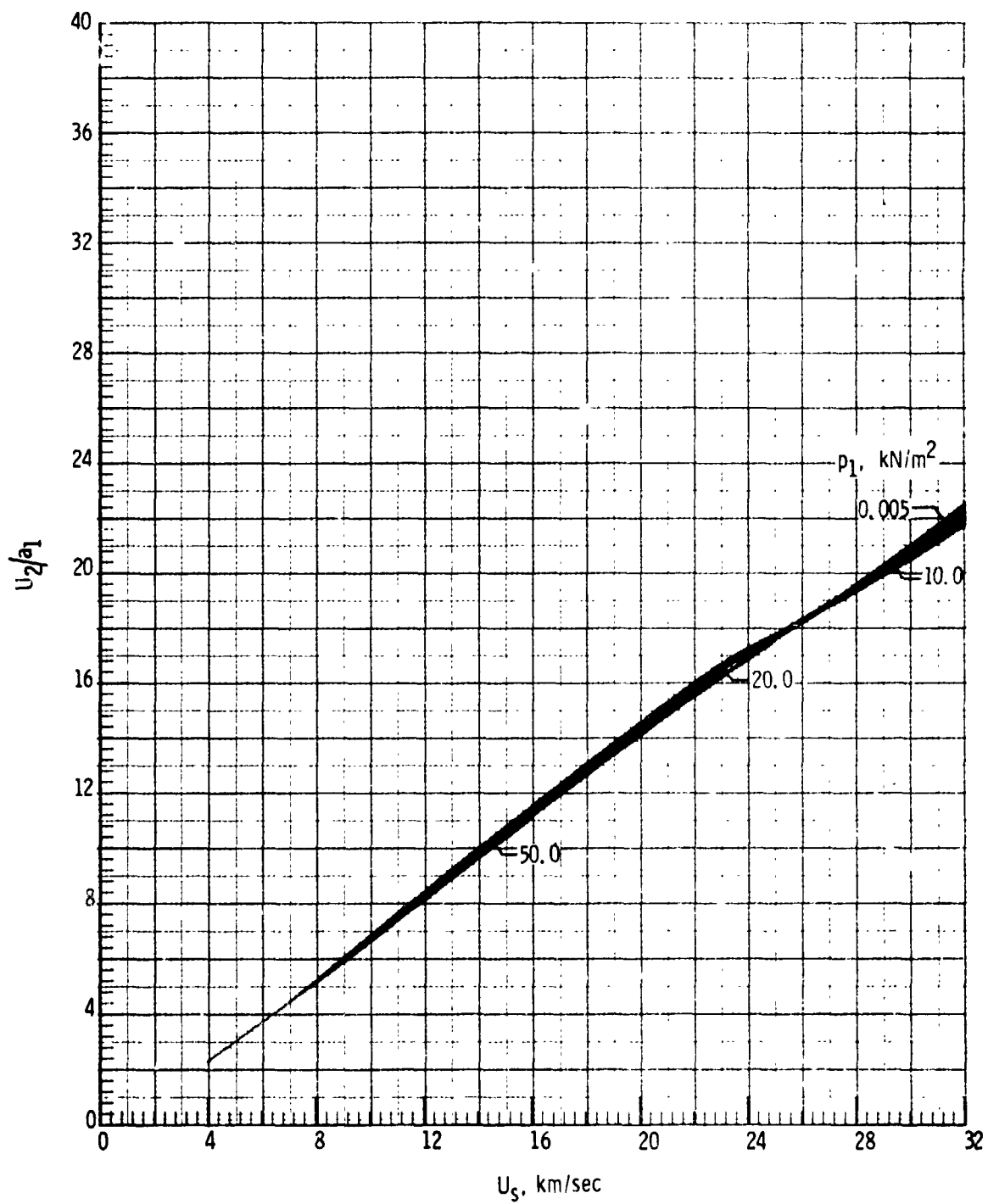
(h) Isentropic exponent $\gamma_{E,2}/\gamma_{E,1}$

Figure 8. - Continued.



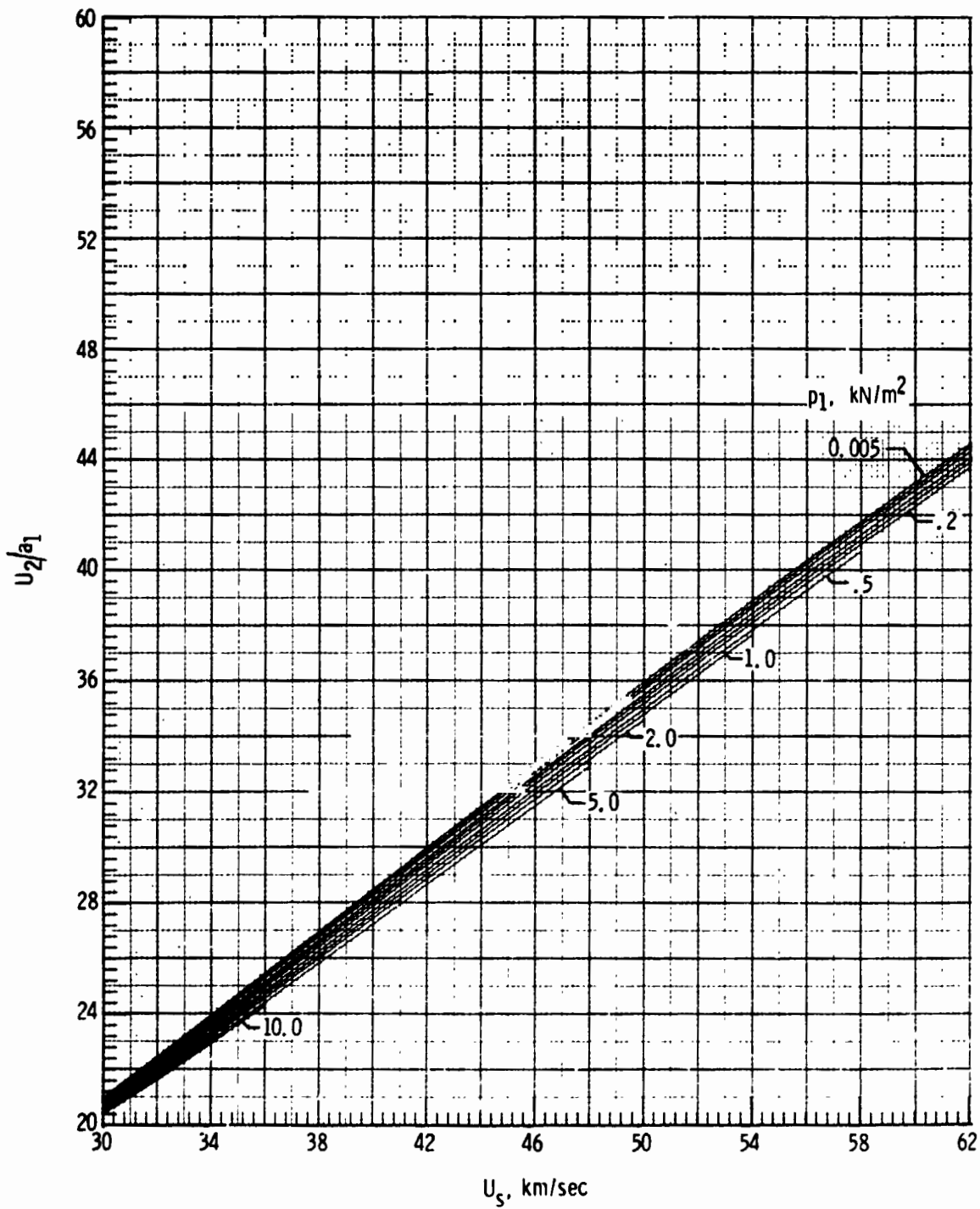
(h) Isentropic exponent $\gamma_{E,2}/\gamma_{E,1}$. Concluded.

Figure 8.- Continued.



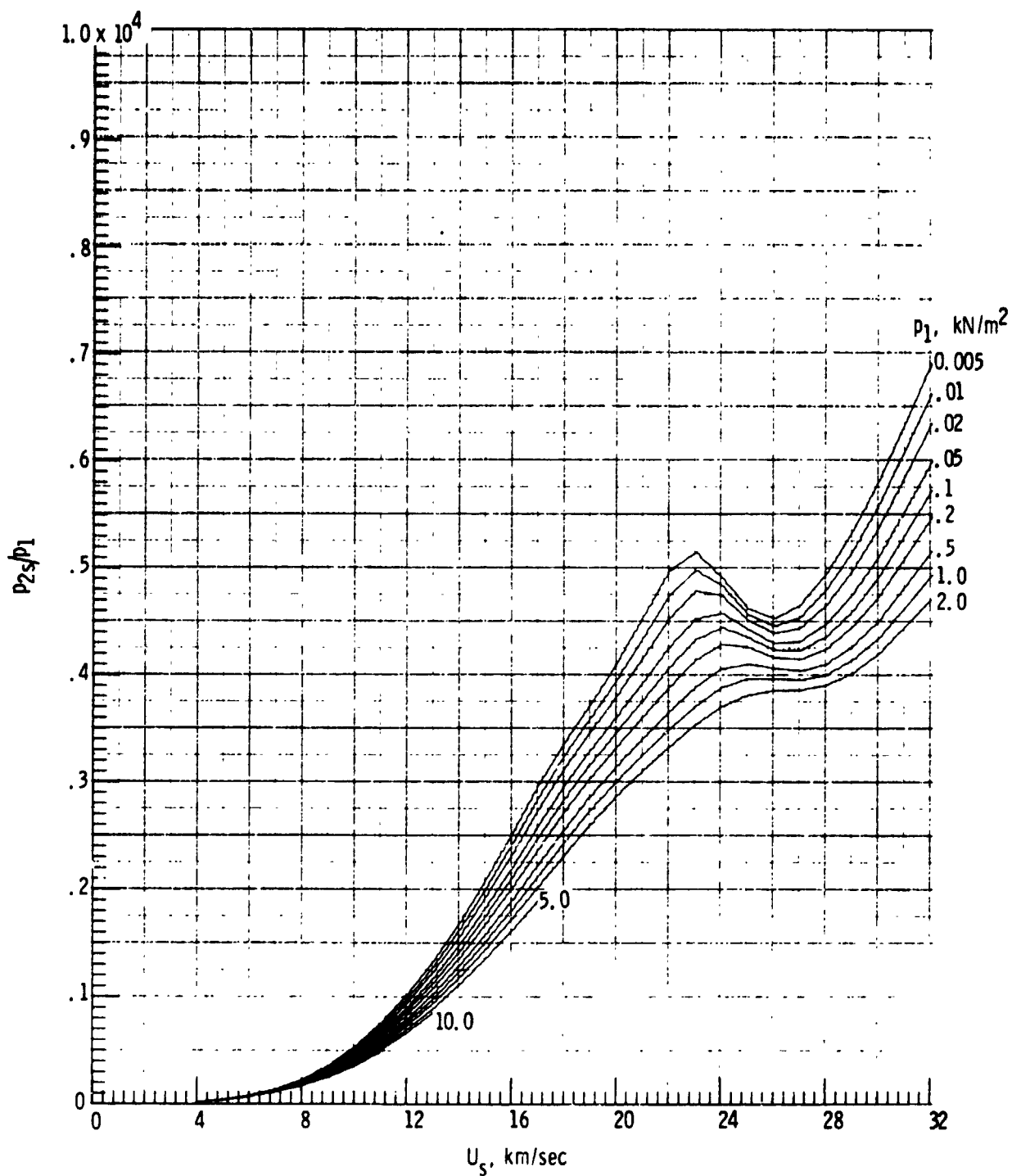
(i) Flow velocity U_2/a_1 .

Figure 8.- Continued.



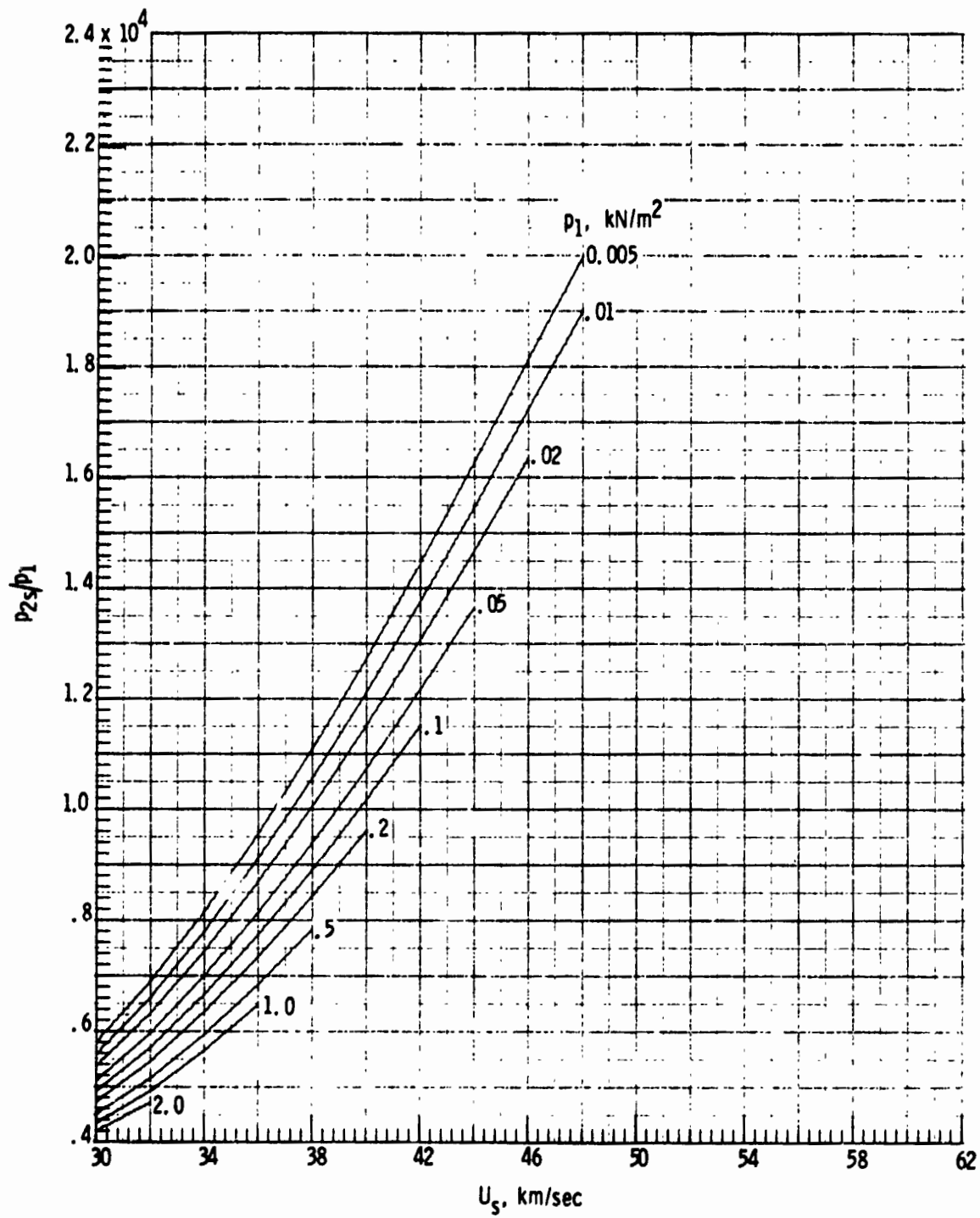
(i) Flow velocity U_2/a_1 . Concluded.

Figure 8.- Concluded.



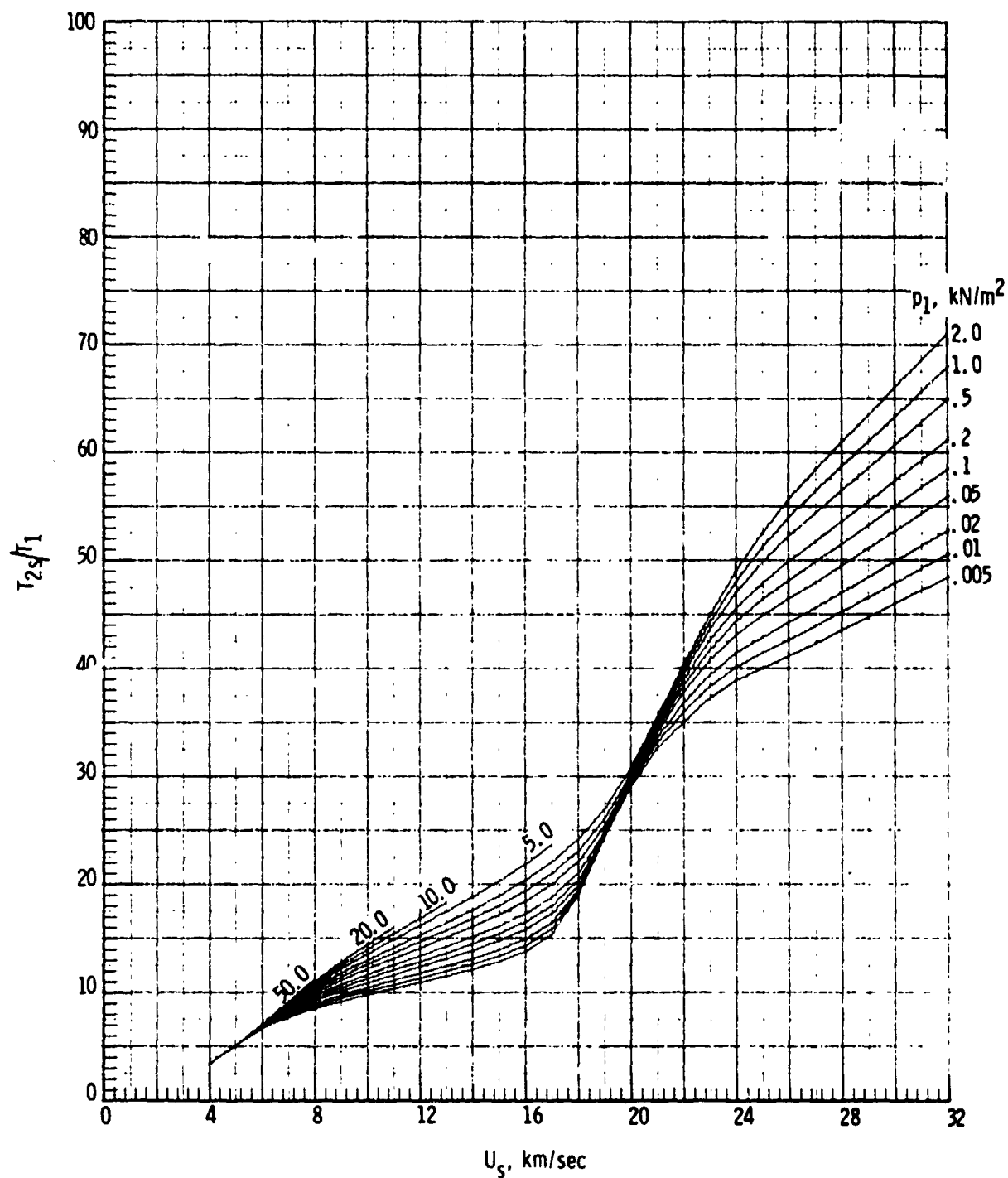
(a) Pressure p_{2s}/p_1 .

Figure 9.- Thermodynamic properties and flow velocity behind a standing normal shock for a 0.05He-0.95H₂ mixture.



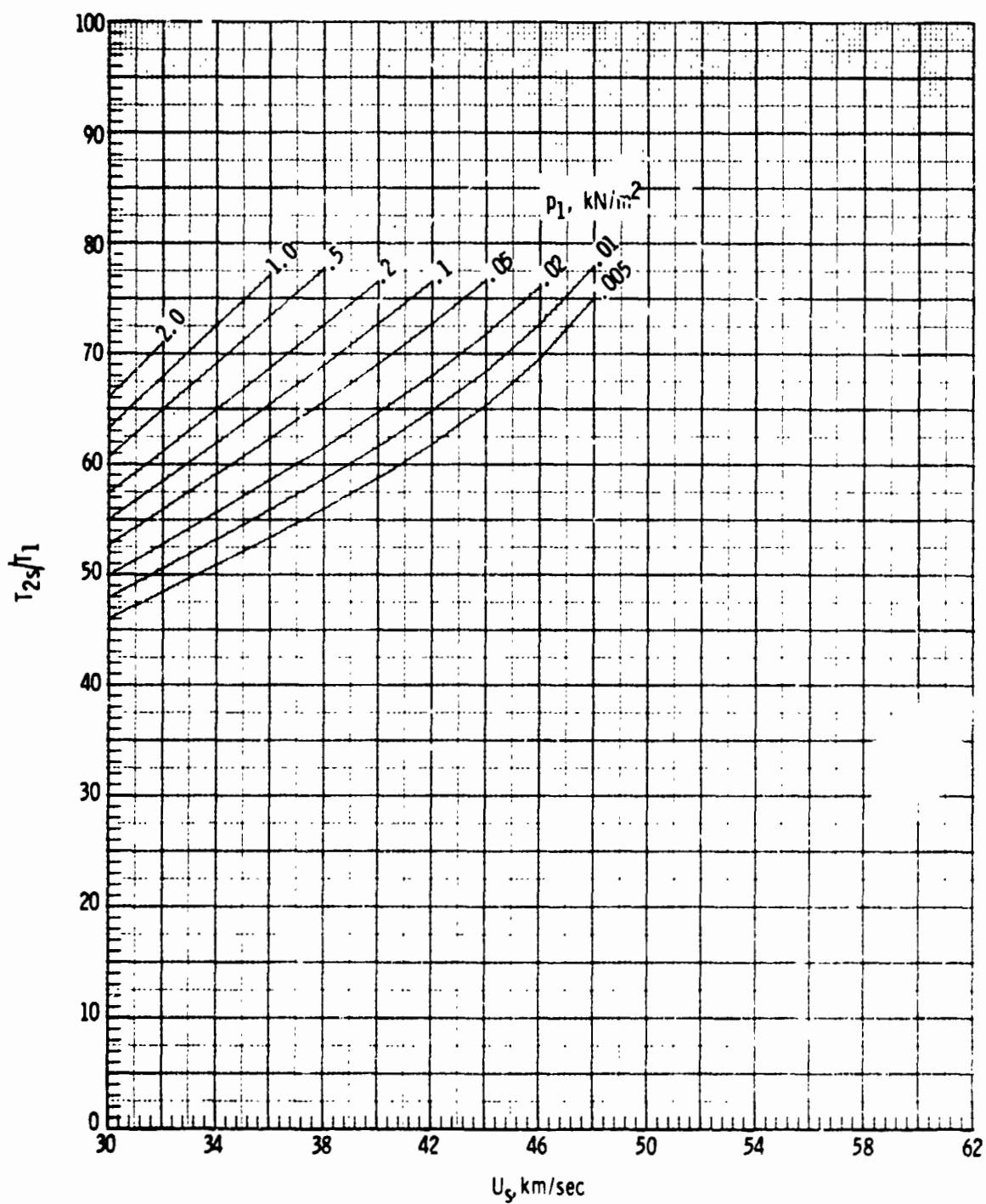
(a) Pressure p_{2s}/p_1 . Concluded.

Figure 9. - Continued.



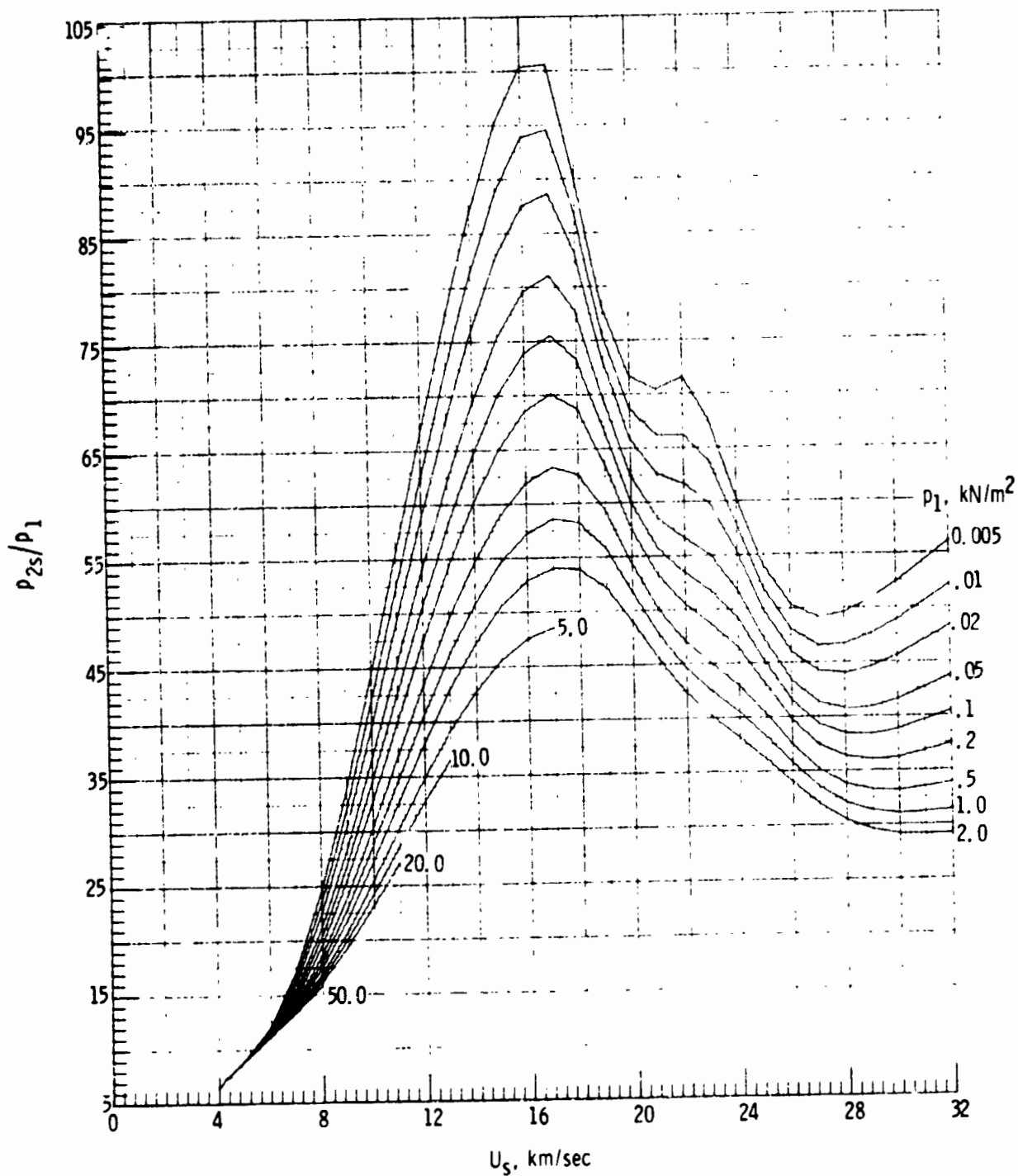
(b) Temperature T_{2s}/T_1 .

Figure 9. - Continued.



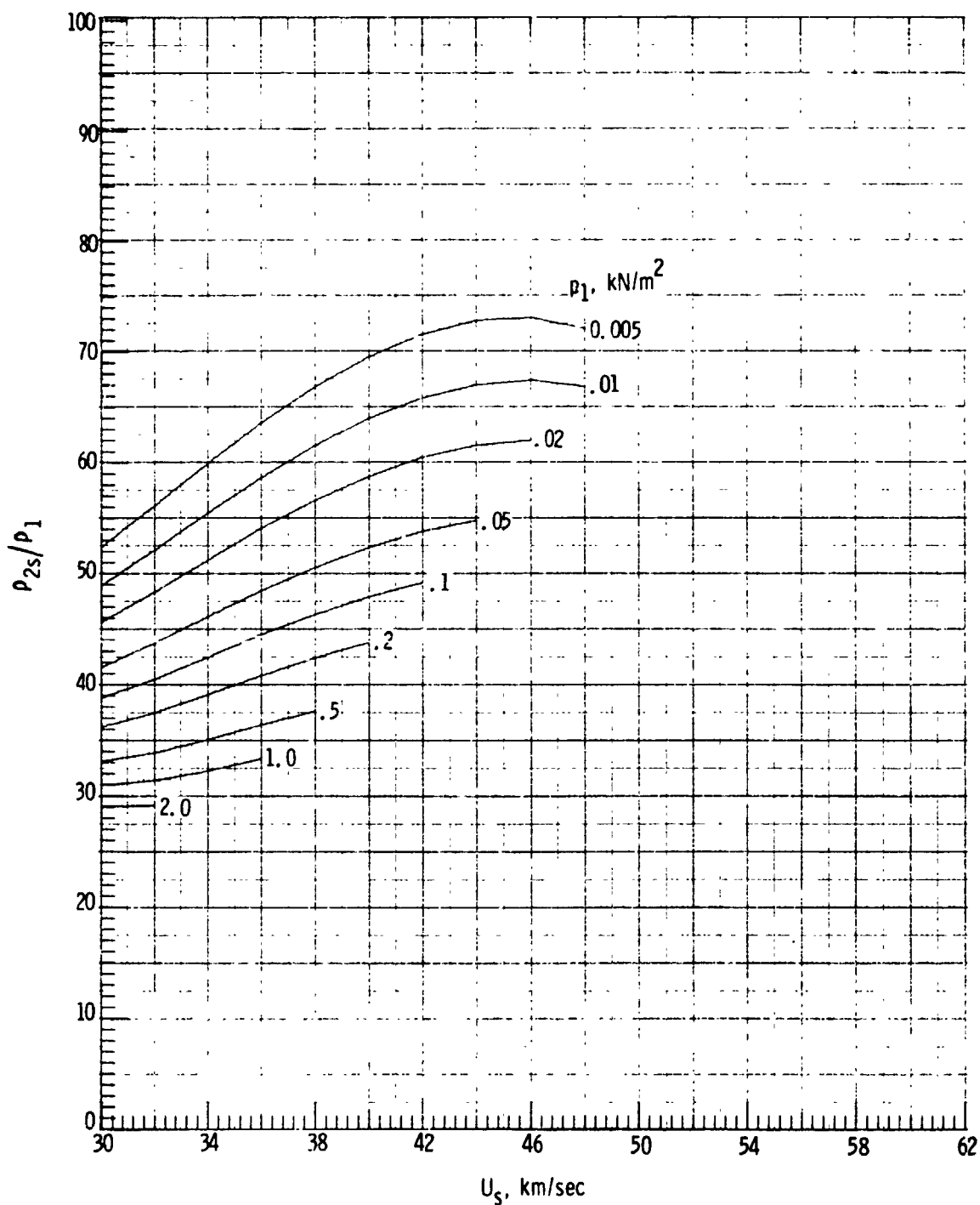
(b) Temperature T_{2s}/T_1 . Concluded.

Figure 9. - Continued.



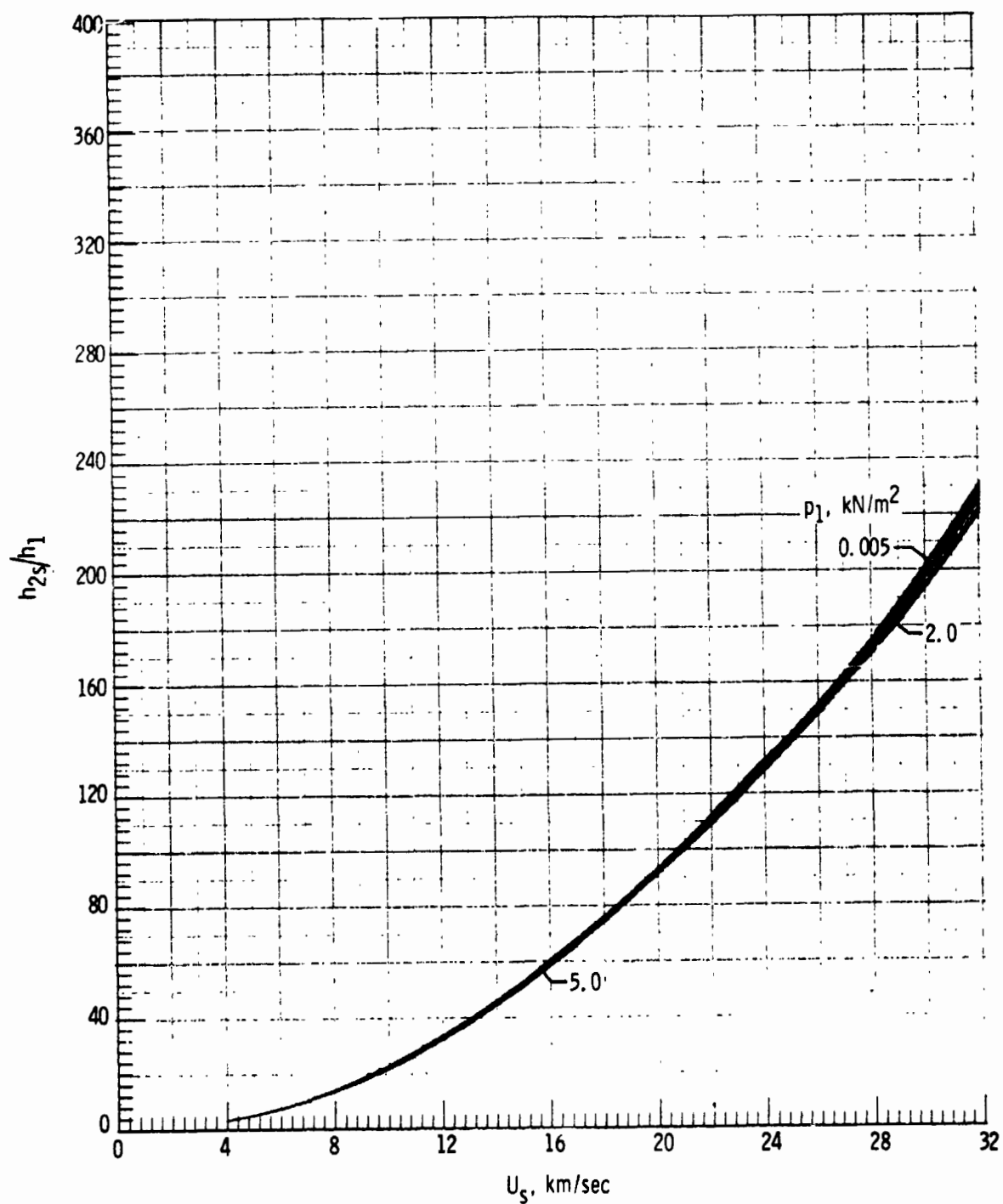
(c) Density ρ_{2s}/ρ_1 .

Figure 9. - Continued.



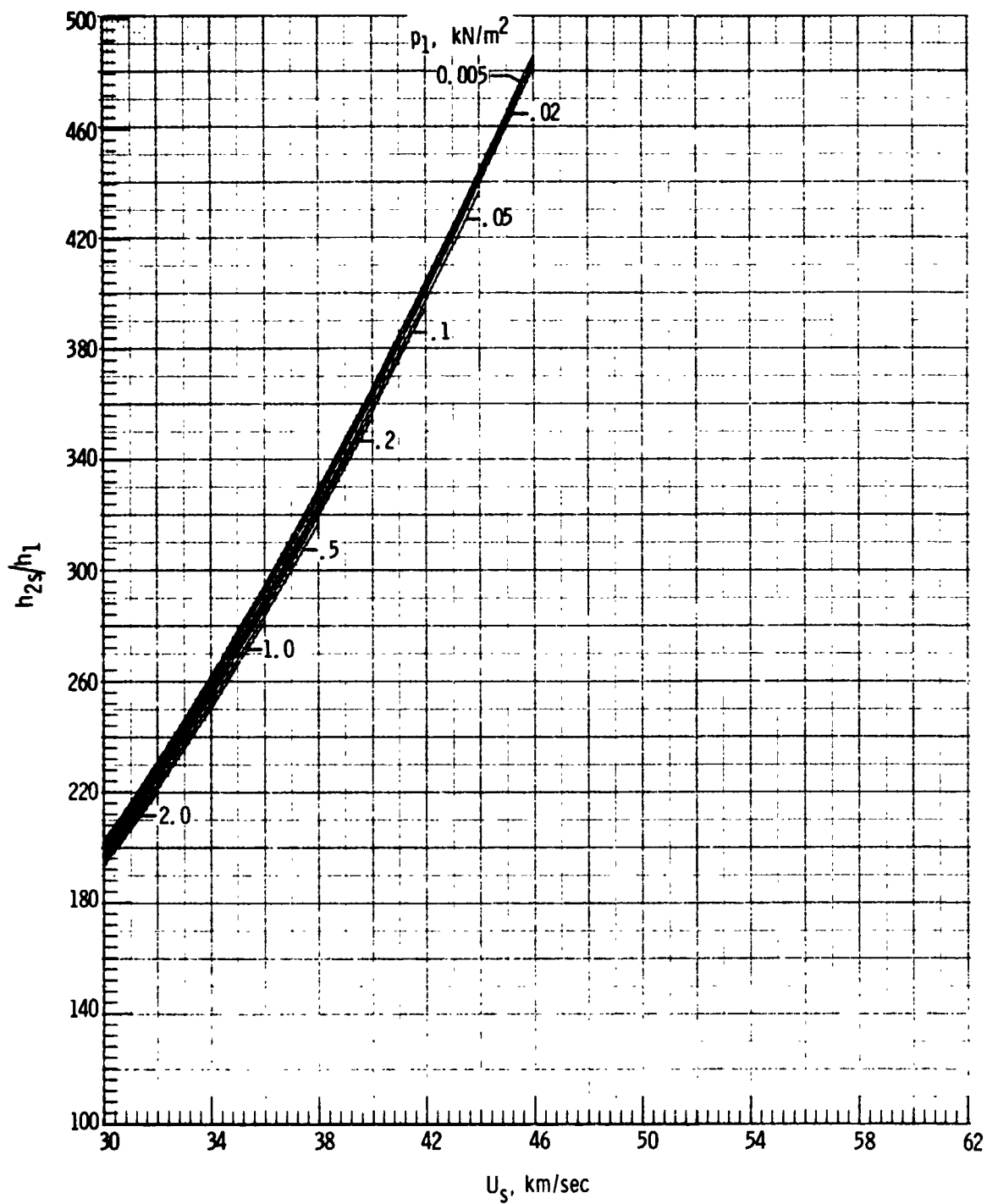
(c) Density ρ_{2s}/ρ_1 . Concluded.

Figure 9.- Continued.



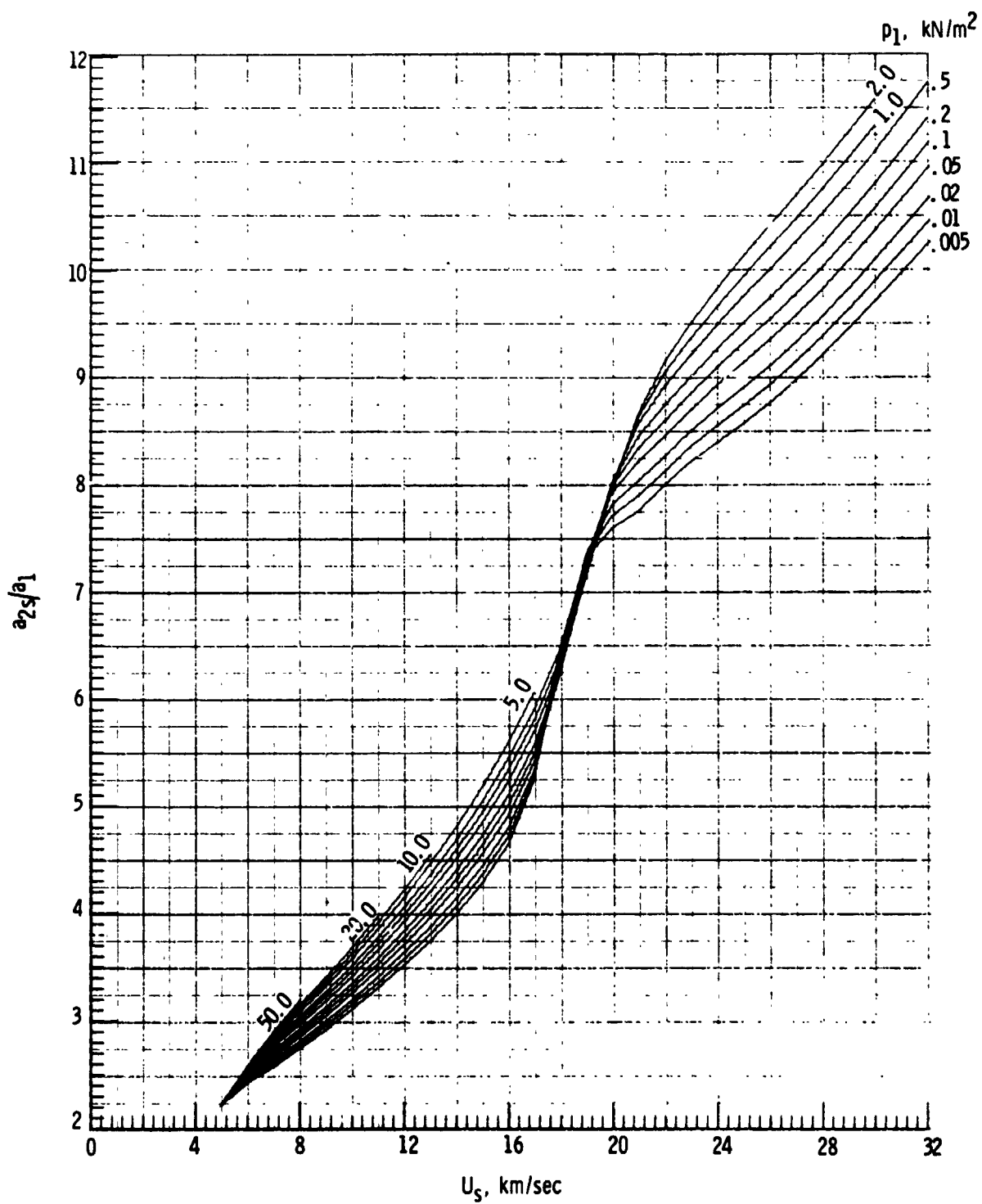
(d) Enthalpy h_{2s}/h_1 .

Figure 9. - Continued.



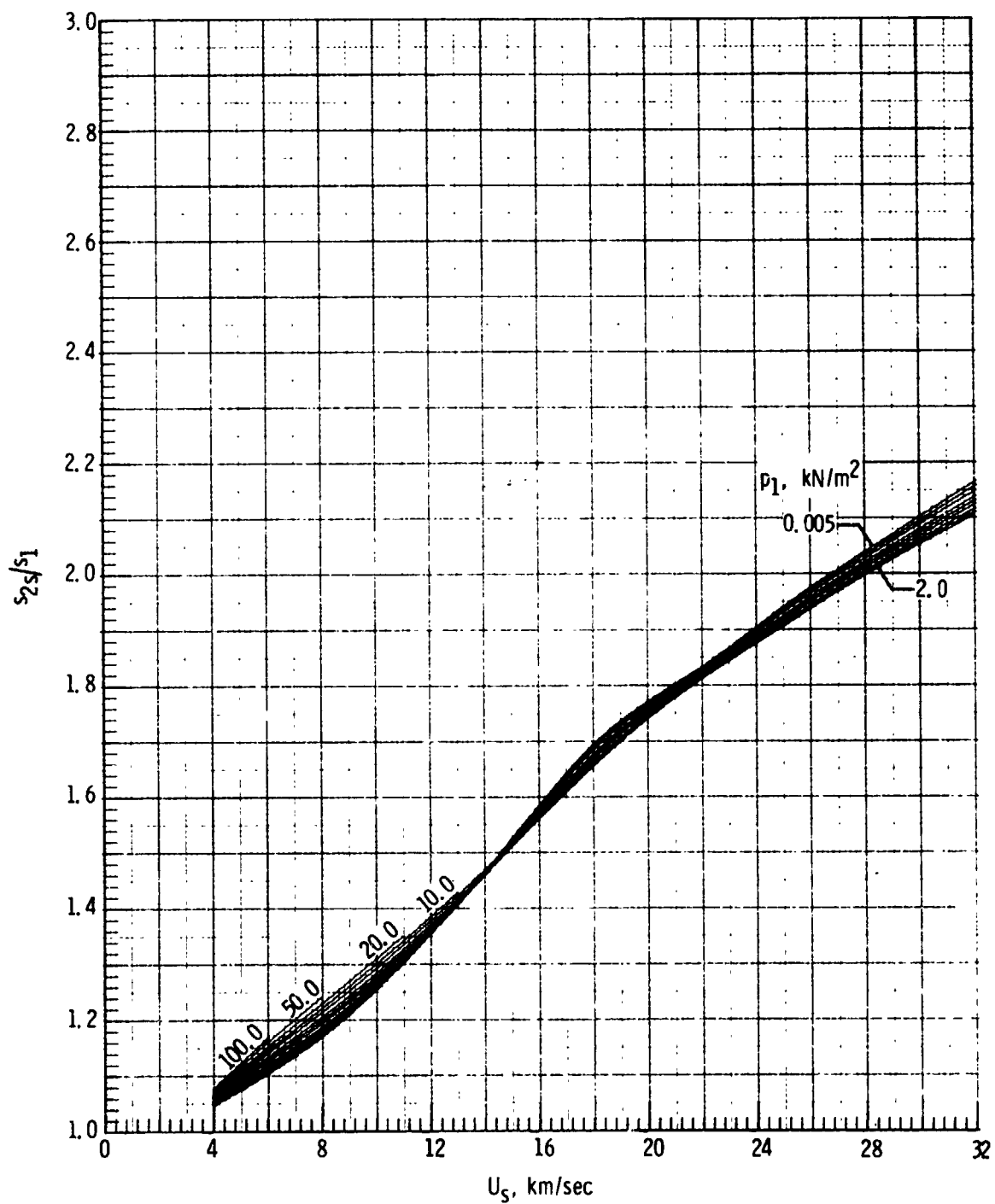
(d) Enthalpy h_{2s}/h_1 . Concluded.

Figure 9. - Continued.



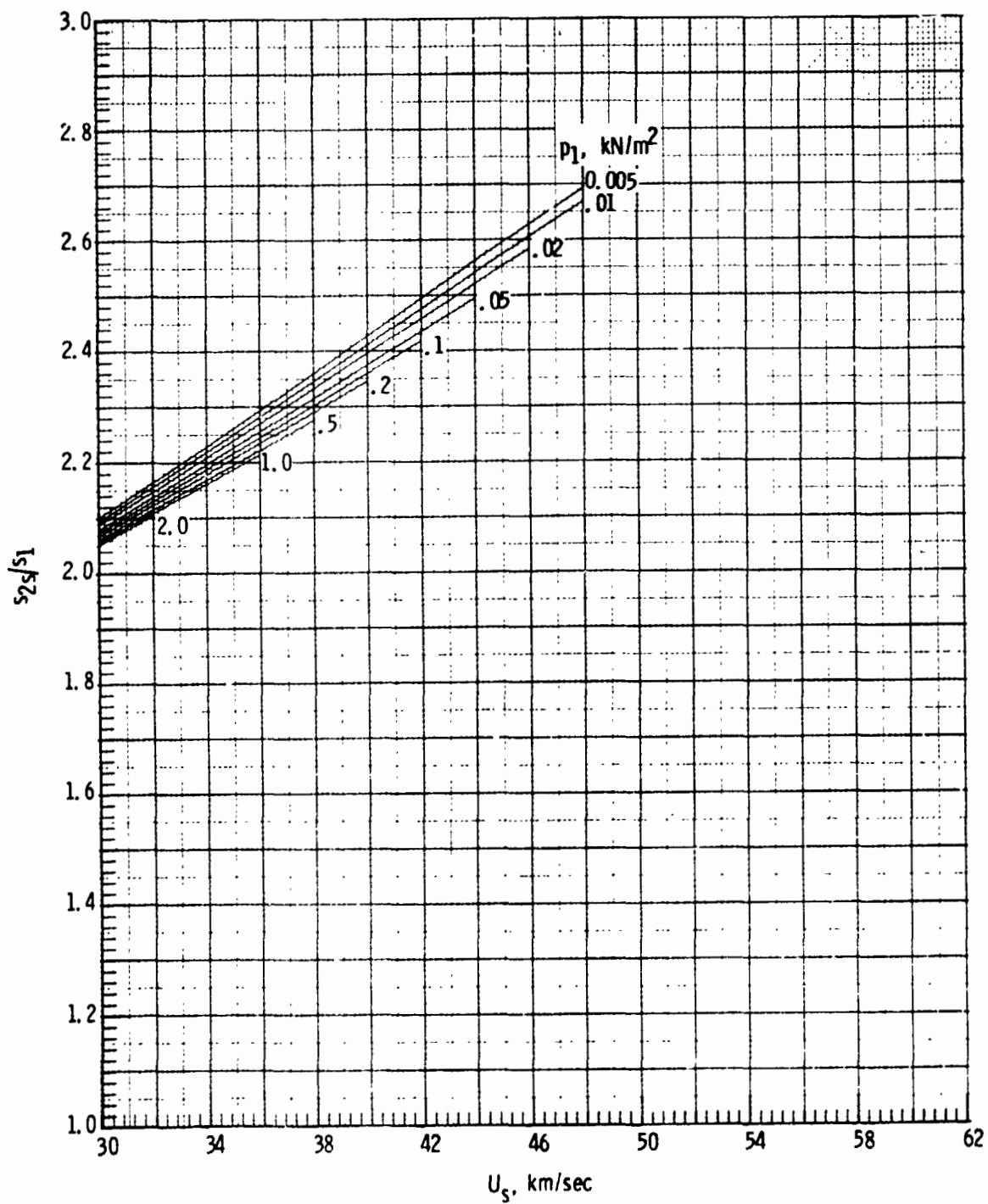
(e) Speed of sound a_{2s}/a_1 .

Figure 9.- Continued.



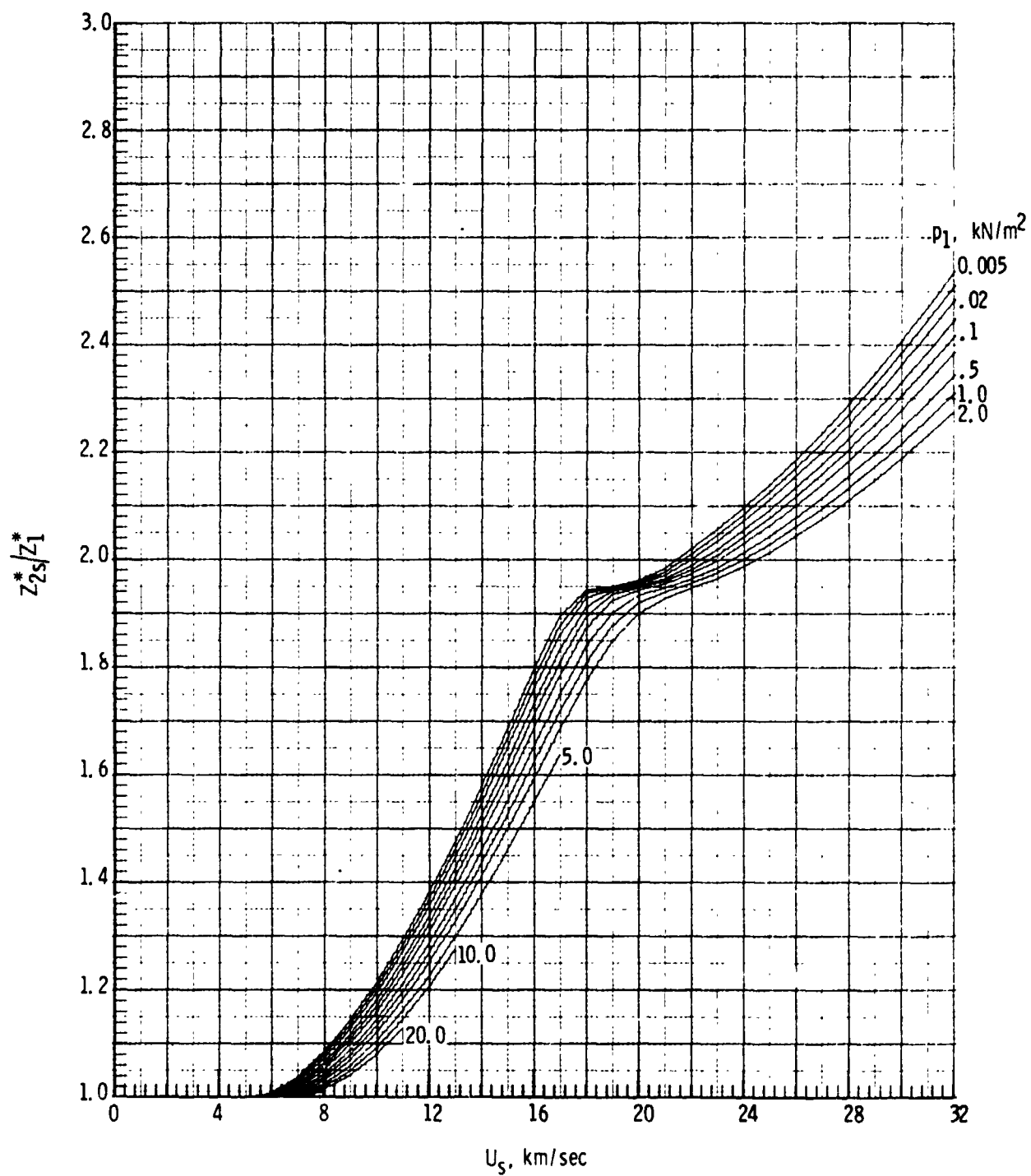
(f) Entropy s_{2s}/s_1 .

Figure 9.- Continued.



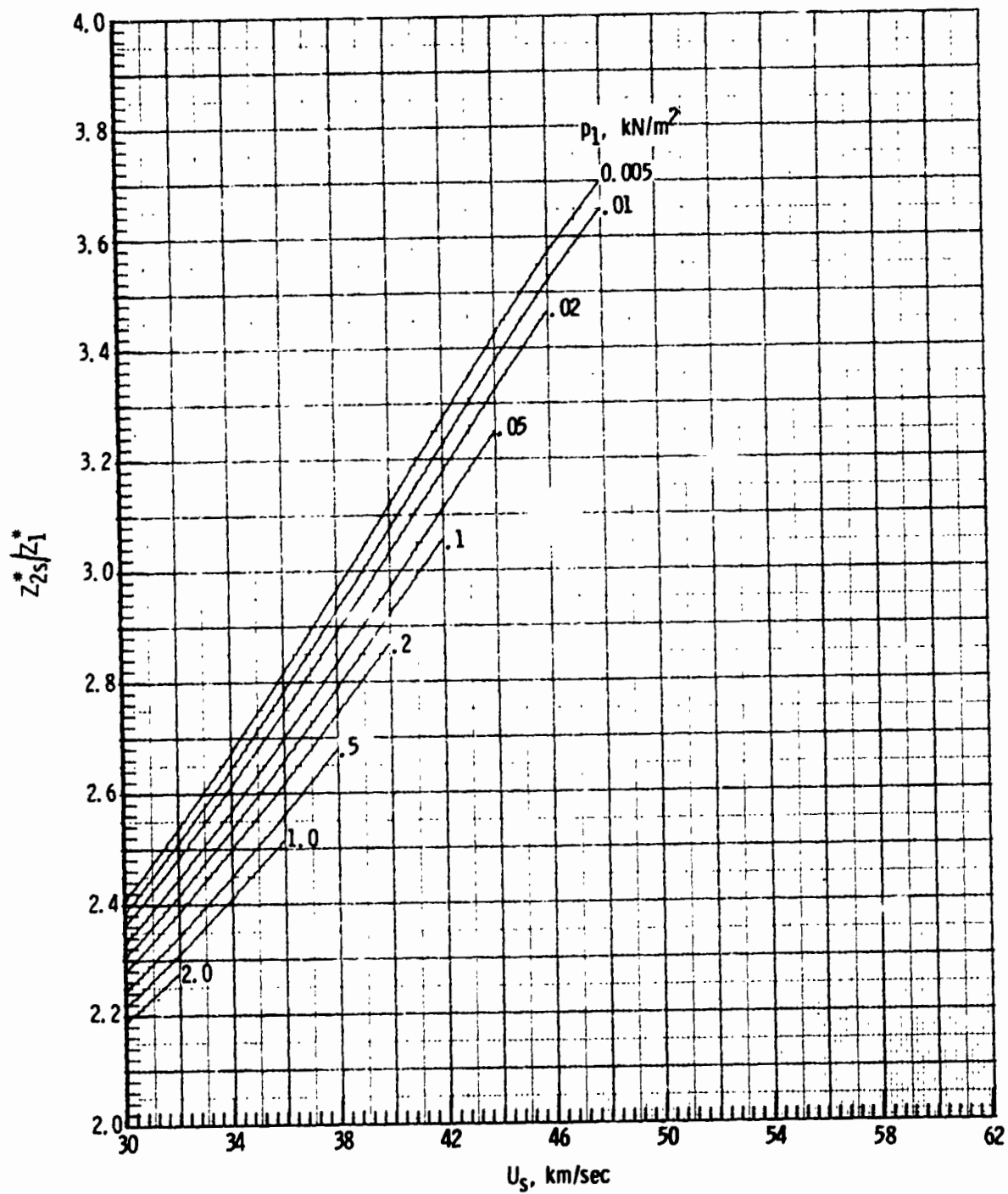
(f) Entropy s_{2s}/s_1 . Concluded.

Figure 9.- Continued.



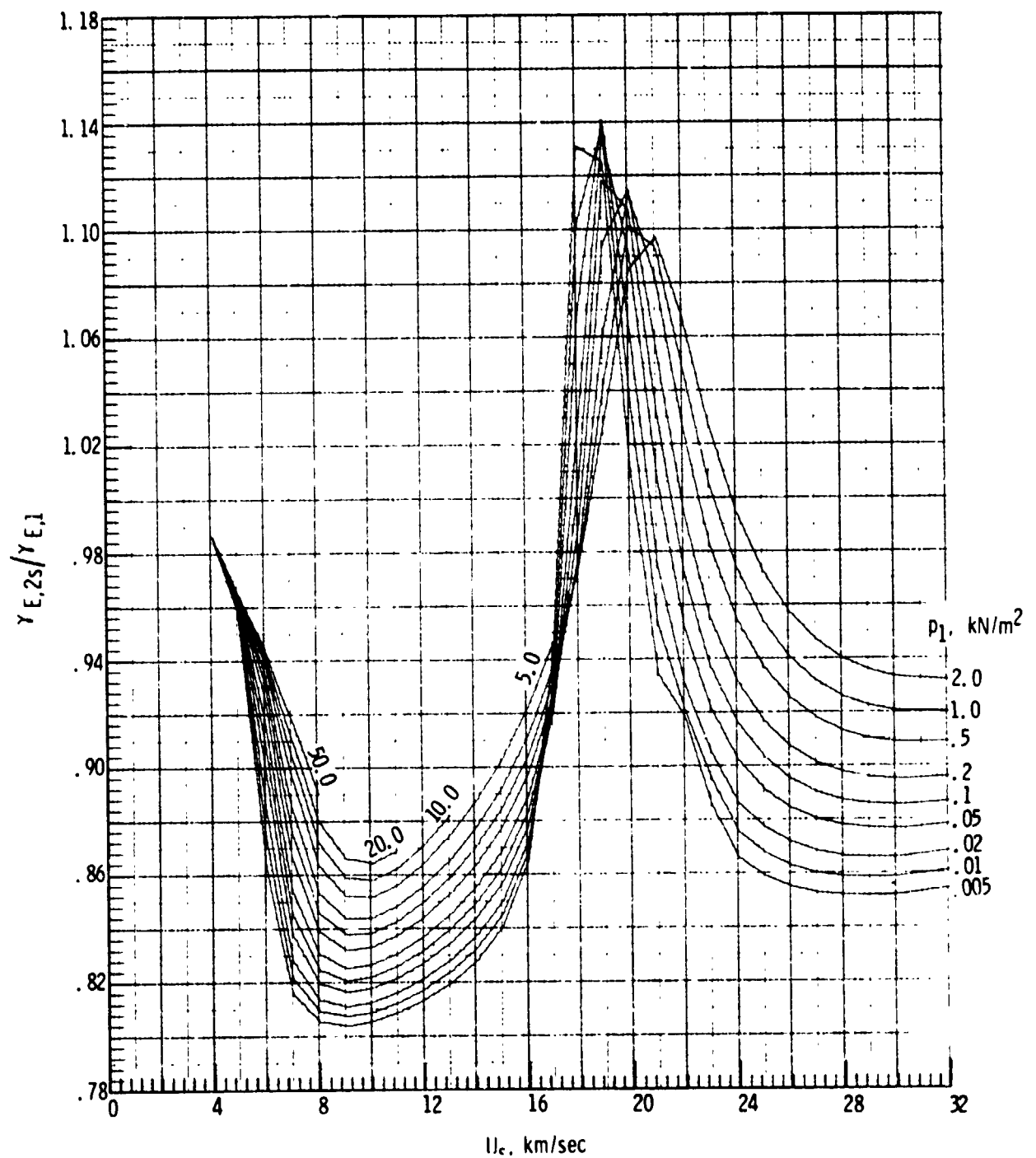
(g) Molecular-weight ratio z_{2s}^*/z_1^* .

Figure 9. - Continued.



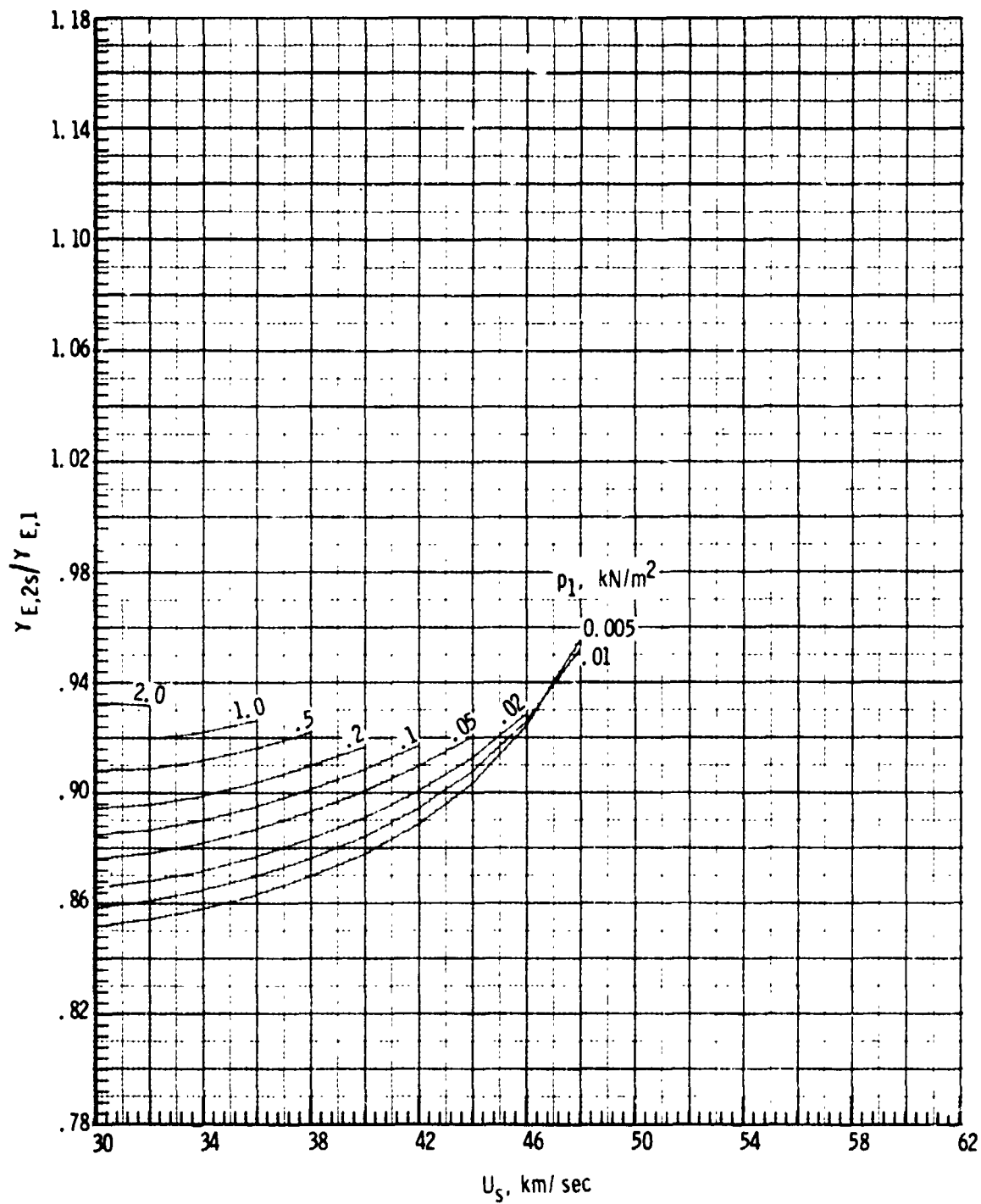
(g) Molecular-weight ratio Z_{2s}^*/Z_1^* . Concluded.

Figure 9. - Continued.



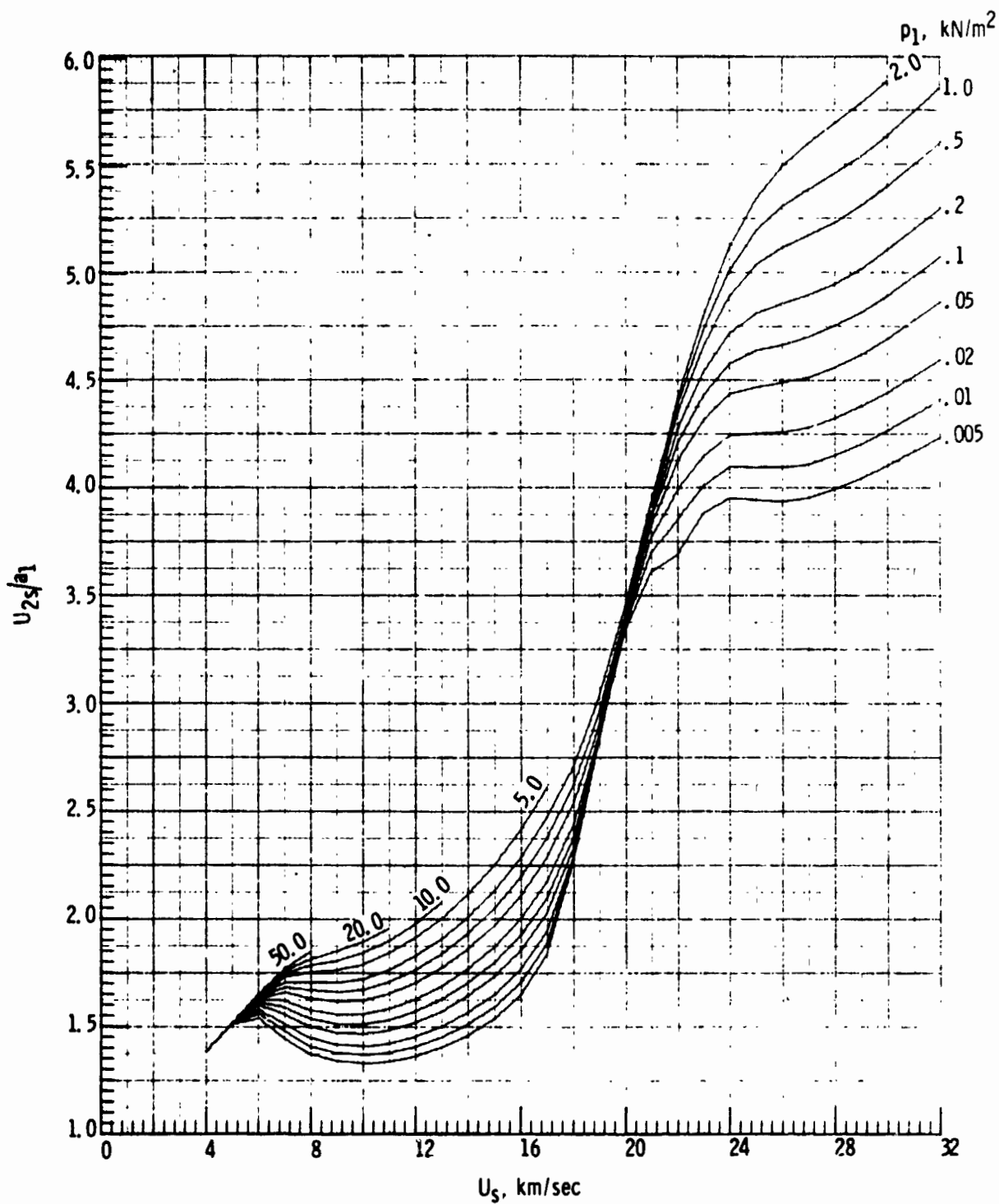
(h) Isentropic exponent $\gamma_{E,2s}/\gamma_{E,1}$.

Figure 9. - Continued.



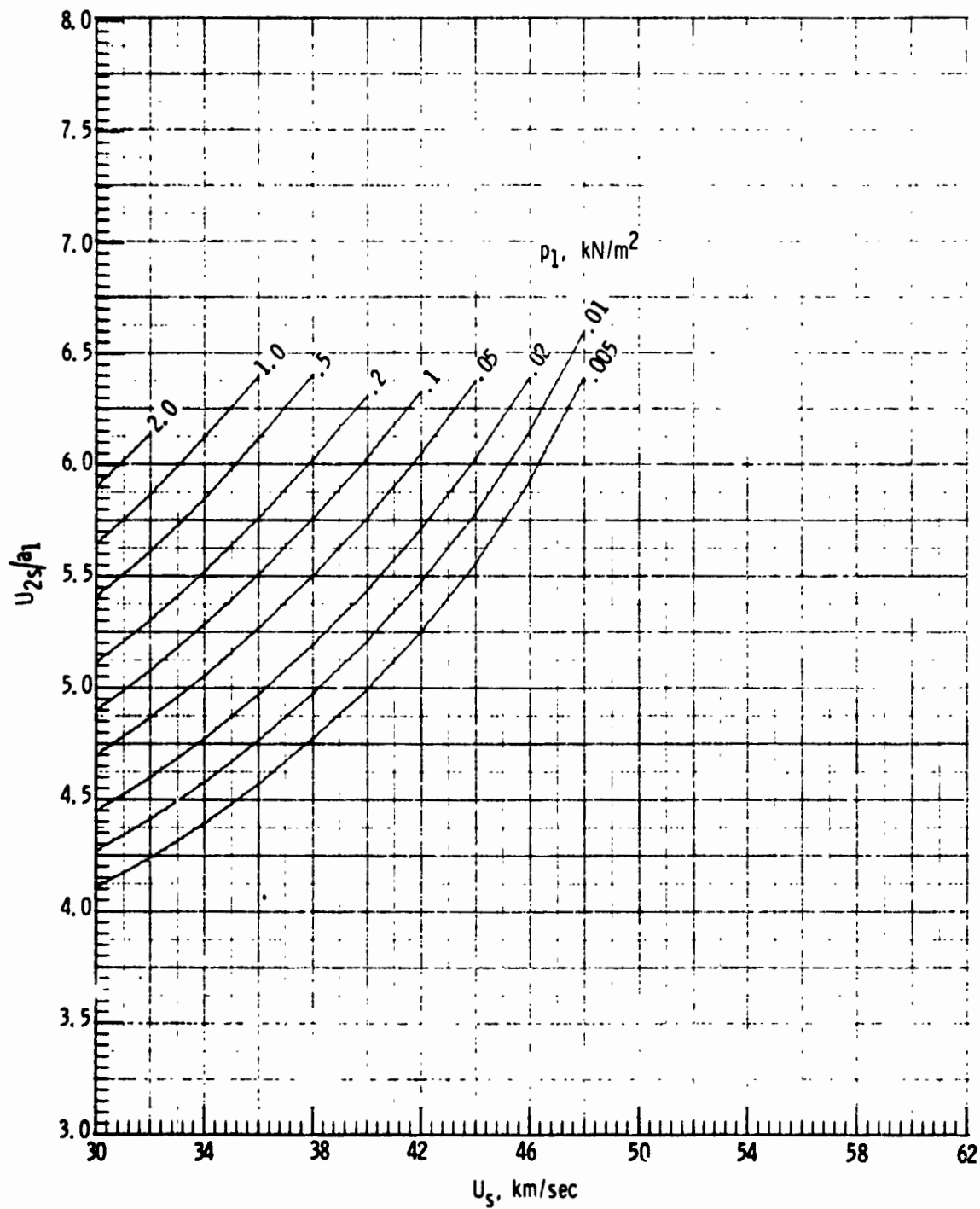
(h) Isentropic exponent $\gamma_{E,2s}/\gamma_{E,1}$. Concluded.

Figure 9. - Continued.



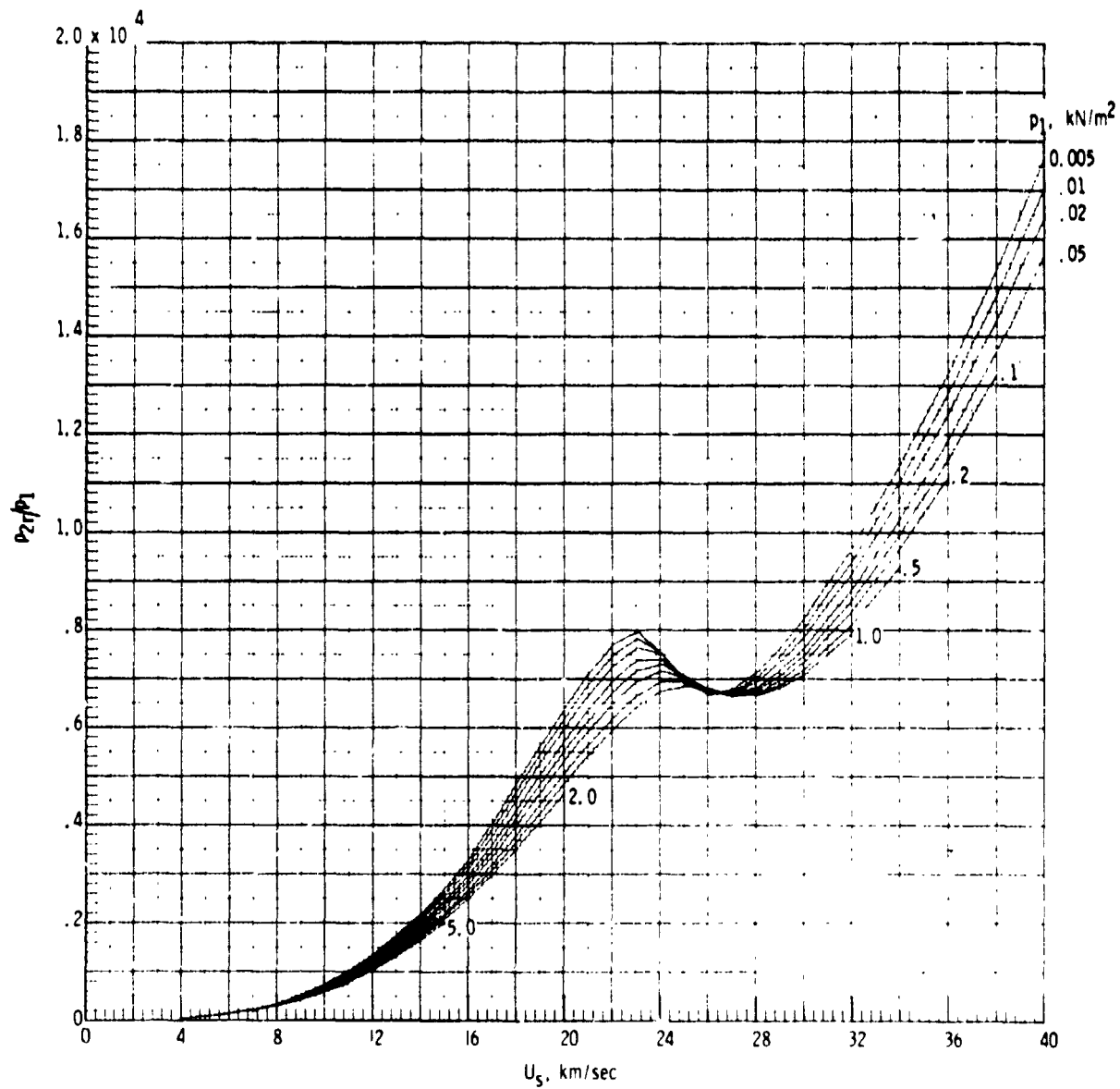
(i) Flow velocity U_{2s}/a_1 .

Figure 9. - Continued.



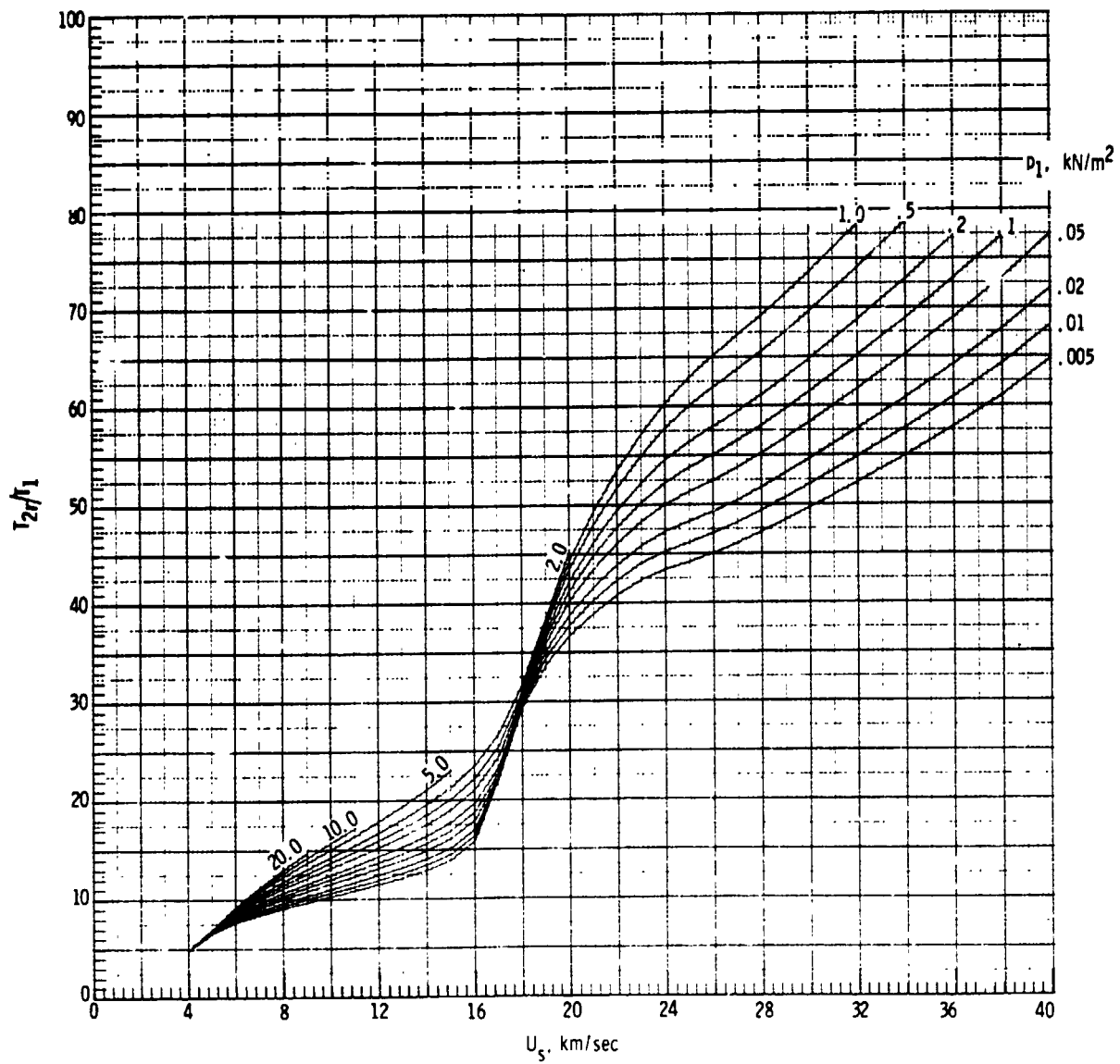
(i) Flow velocity U_{2s}/a_1 . Concluded.

Figure 9.- Concluded.



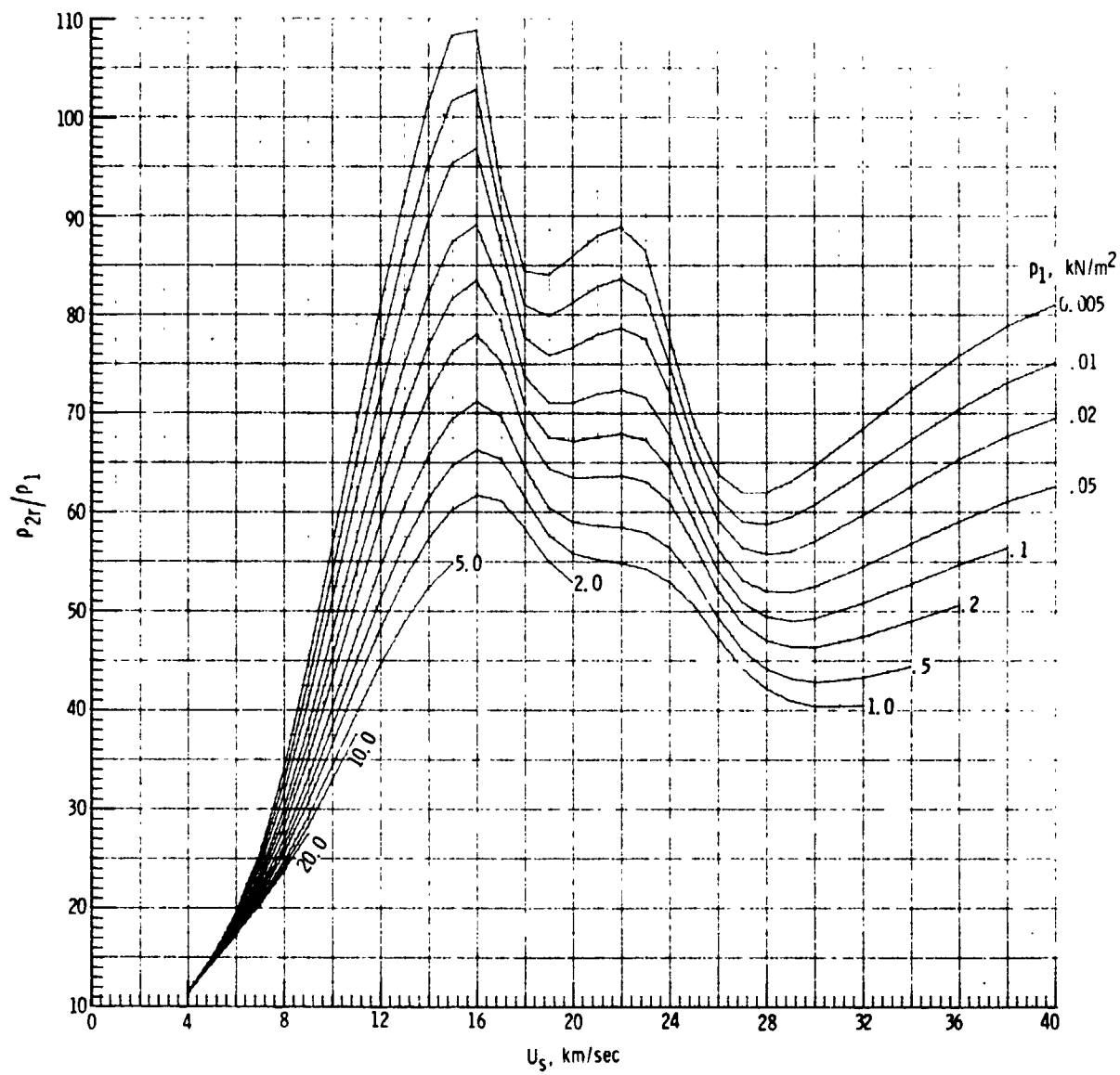
(a) Pressure p_{2r}/p_1 .

Figure 10.- Thermodynamic properties behind a reflected normal shock and reflected shock velocity for a 0.05He-0.95H₂ mixture.

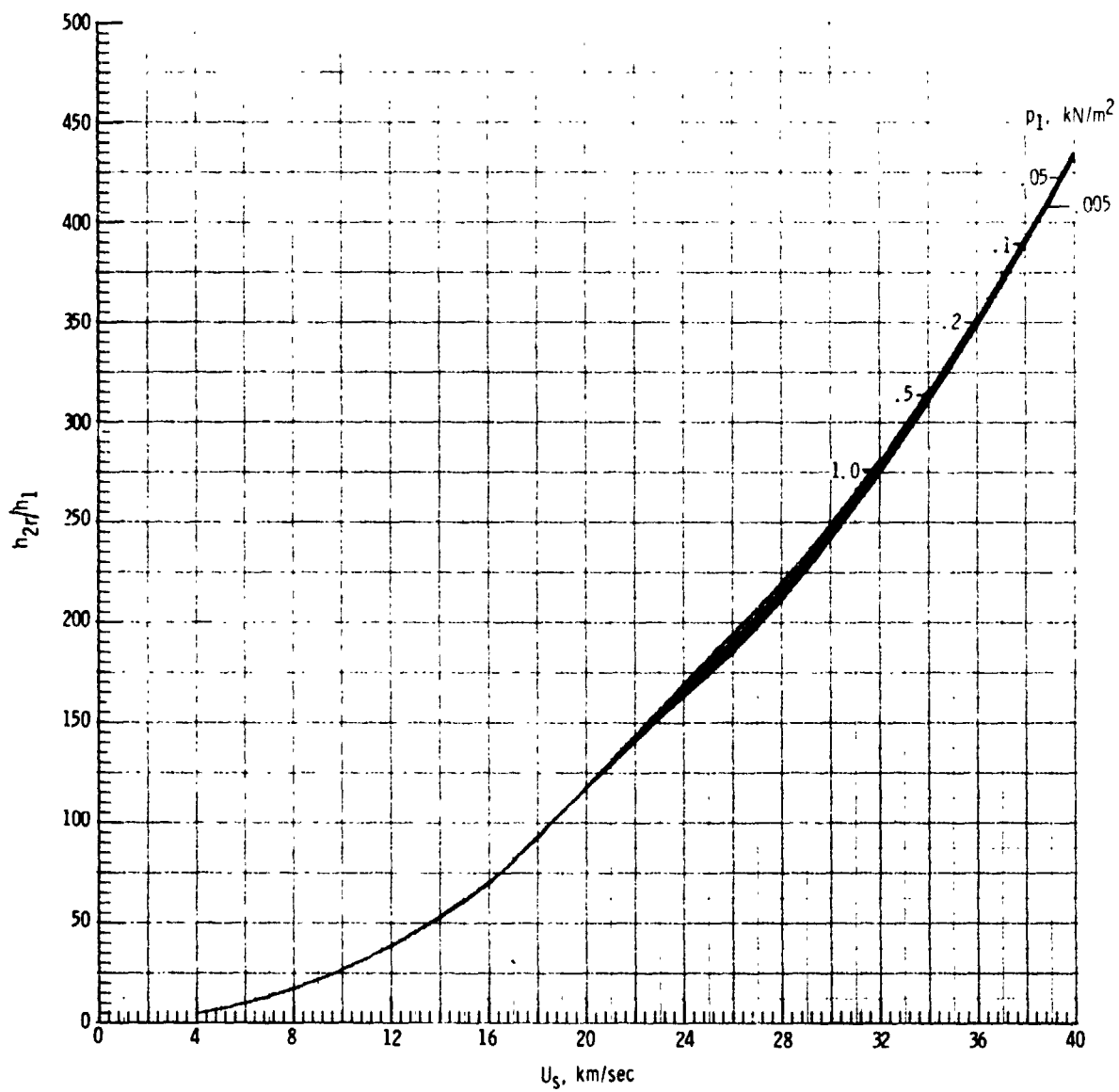


(b) Temperature T_{2r}/T_1 .

Figure 10.- Continued.

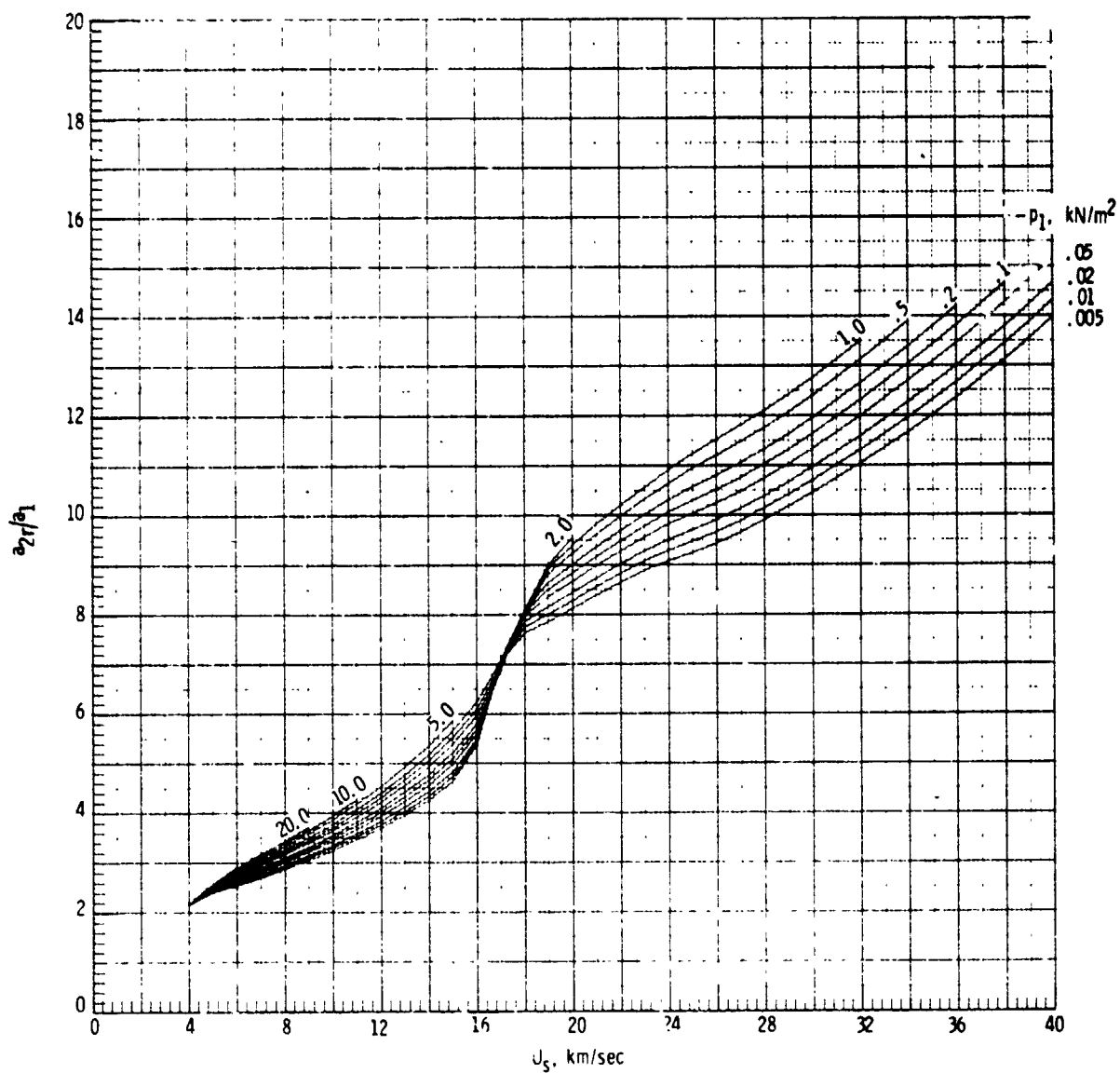


(c) Density ρ_{2r}/ρ_1 .
Figure 10.- Continued.



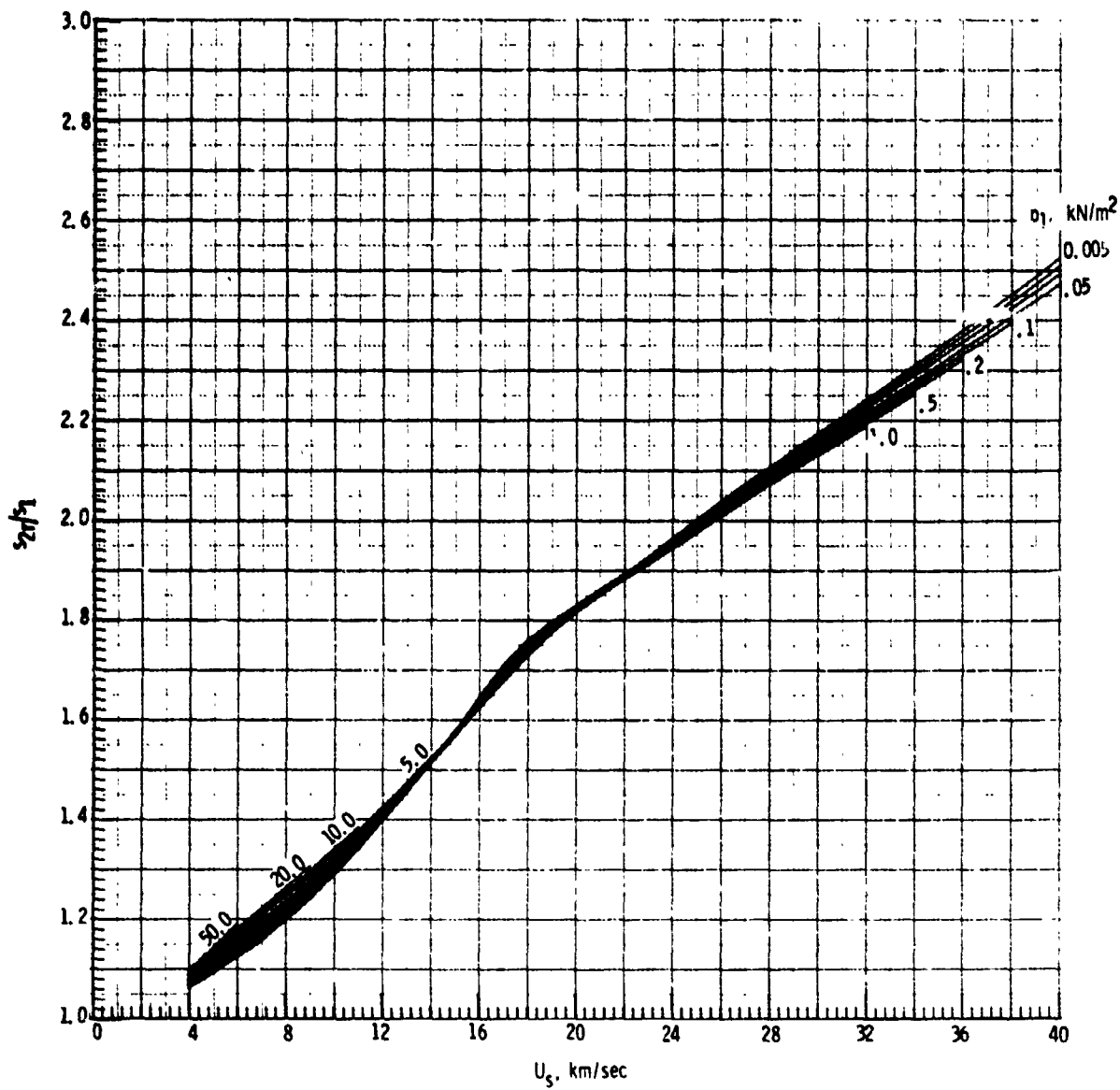
(d) Enthalpy h_{2r}/h_1 .

Figure 10.- Continued.

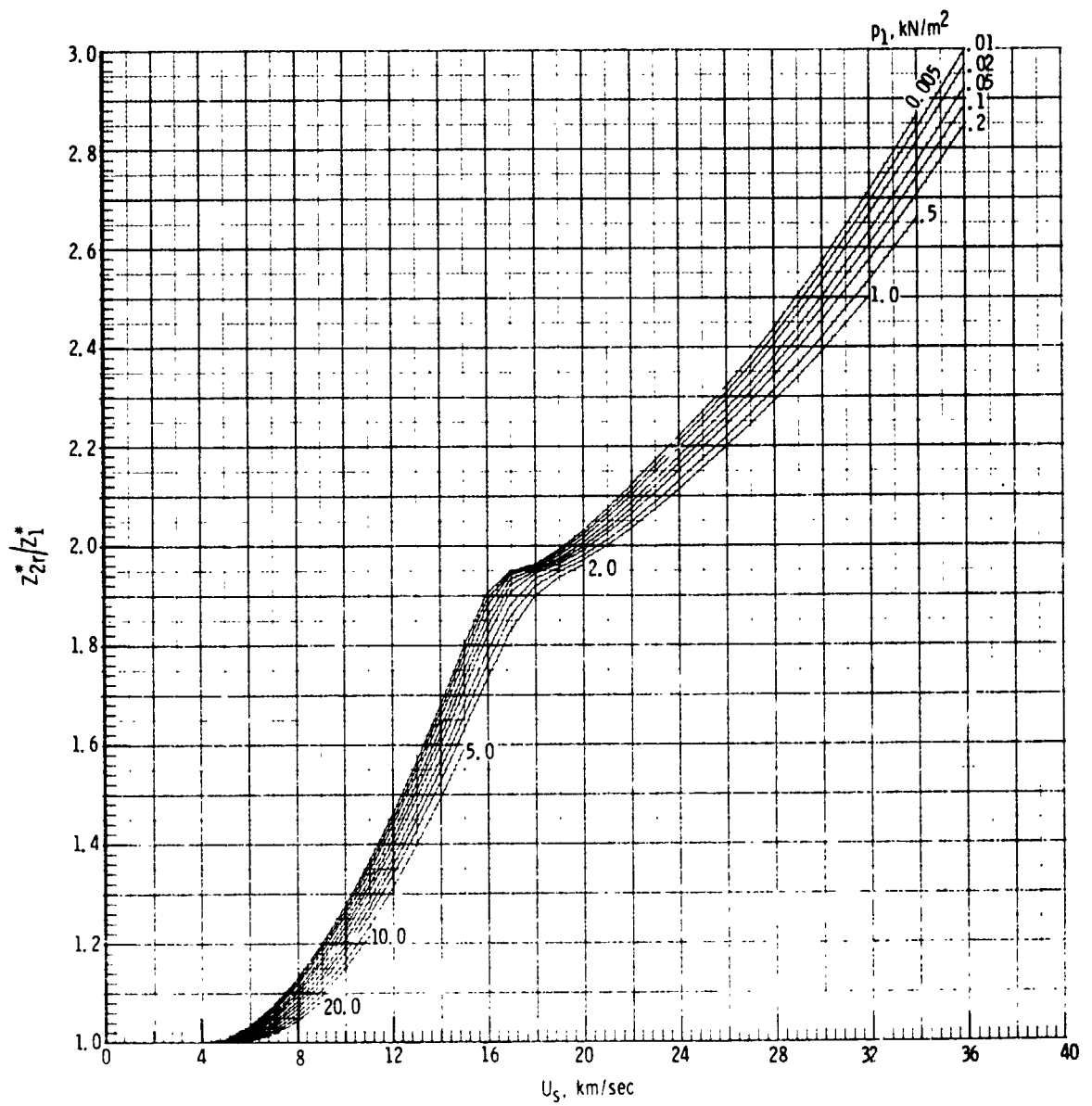


(e) Speed of sound a_{2r}/a_1 .

Figure 10. - Continued.

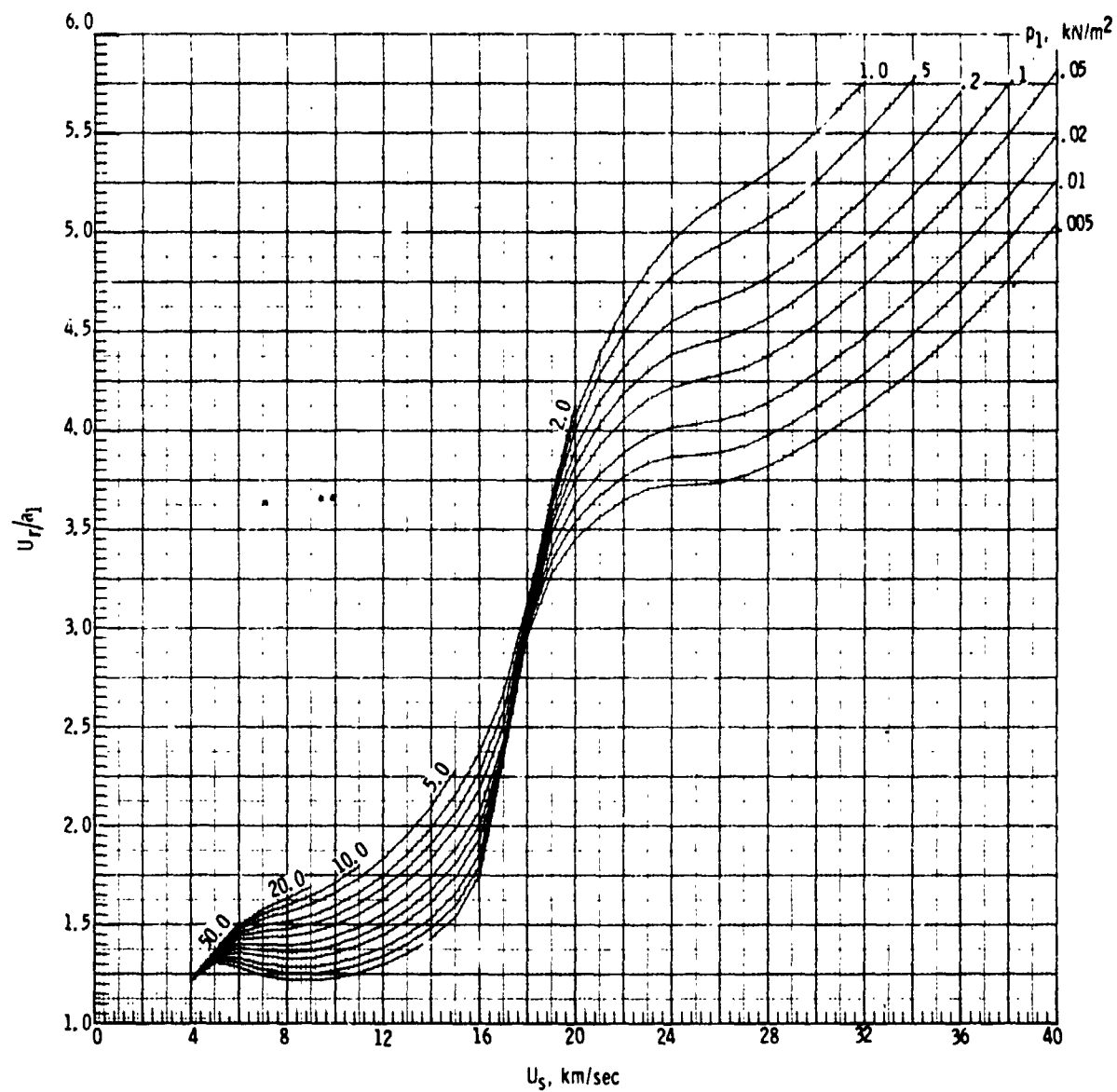


(f) Entropy s_{2r}/s_1 .
Figure 10.- Continued.



(g) Molecular-weight ratio Z_{2r}^*/Z_1^* .

Figure 10.- Continued.



(i) Reflected shock velocity U_r/a_1 .

Figure 10. - Concluded.

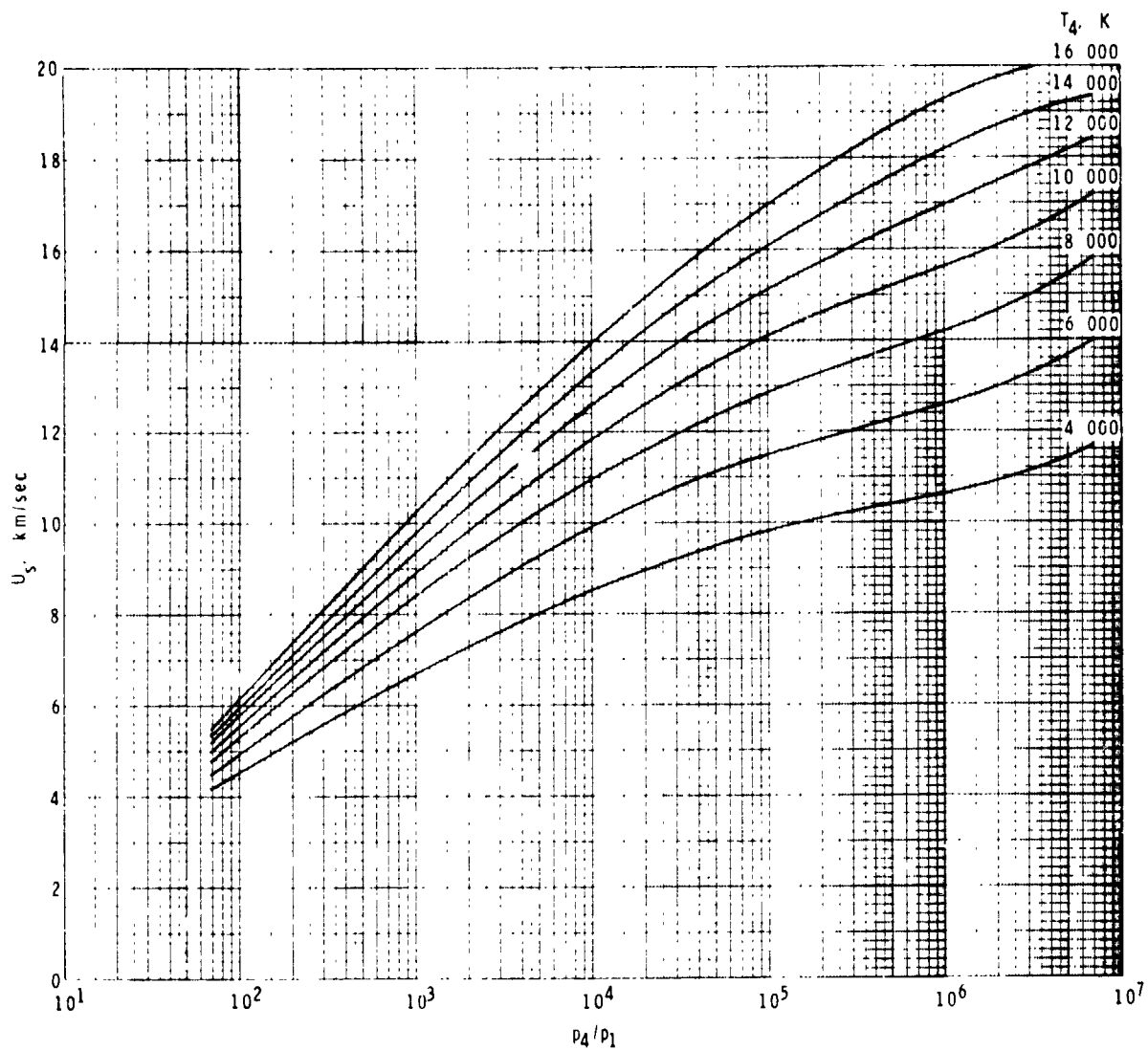


Figure 11.- Incident shock velocity as a function of ratio of helium driver gas pressure to test gas pressure for a 0.20He-0.80H₂ test gas. $p_4 = 68.95 \text{ MN/m}^2$.